



# KNX DALI Gateway User Manual

(Applicable model: M/DALI.1)

Version: V1.0.0

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## **Update History**

The form below contains the information of every update. The latest version contains all the updates of all former versions.

No.	Version	Update Information	Date
1	V1.0.0	Initial release	Feb.24, 2020



### 1 Introduction

This user manual offers the information on the configuration of KNX DALI Gateway (Model: M/DALI.1, hereinafter referred to as DALI Gateway). The following tools might be included:

- KNX DALI Gateway (Model: M/DALI.1)
- A computer with ETS5 software
- KNX USB interface (Model: M/USB.1)
- > KNX power supply and auxiliary power supply
- KNX project files
- Dedicated KNX cable(s)

#### Note:

- ① Please refer to the datasheet attached to the product for the information of installation, wiring, specifications, etc.
- ② The pictures in this user manual are for reference only and the actual product should prevail.



#### 1.1 Import Data

#### 1.1.1 Import Database to ETS (.knxprod)

1. Import Catalogs: click "Catalogs" → "Import…" in the main page of ETS5 software and select local database files with the suffix of .knxprod, as shown in Figure 1-1.

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ETS								?
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📩 Import 🔩 Export	🛆 🗣 Download	III → HD	L > Product	s	5	Search		ρ
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(						>		
				ETS Version ET	S 5.6.4 (Build 84	2) 🛈 License	Demo Apps 0 activ	/e

Figure 1-1 Import catalog



2. Create Projects: as shown in Figure 1-2, in "Your Projects" tab from ETS5 software's "Overview" page, click "+" to create projects. After editing project name, please keep other default setting items.

<b>⊞</b> ETS5™					
ETS					0
Overview	Bus	Catalogs	Settings		KNX
Your Projects	Project Arc	hive		KNX News	New KNX Products
+ 🎢 📩 Create New Pr	oject	Search	Q	Modern, Massive, Moscow – The 15th KNX National Group Conference kicked off with many surprises 2019/10/7	True Presence® C > Multisensor KNX Steinel GmbH (Germany)
Name HDL Backbone IP Topology ✓ Create Line 1.1	•			This year, the 15th KNX National Group Conference welcomed delegates from 20 countries. Hosting city was Moscow – Not known by many, but appreciated by all. The first day's agenda had various surprises for the delegates regarding the future of	
TP Group Address Style Free Two Level Three Level Create Proj				KNX Association, Tools, and upcoming events. The day after followed with additional presentations and discussion on Social Media activites, best practices and other open subject were discussed between KNX and its National Groups Although both days required the full attention of the delegates, all delegates are anticipating the next day with high excitement.	7 senses for KNX. Welcome to the new era in building sensor technology! True Presence® provides absolutely reliable information on human presence and absence. The revolutionary technology is based on ultra-sensitive high-
				NETx Multi Protocol Server	Certified KNX Products See a list of all certified KNX products here.
				ETS Version ETS 5.6.4 (Build	1 842) 🛈 License Demo Apps 0 active

Figure 1-2 Create projects



#### 3. Add Devices to Projects:

① After creating a project, the project page will show up by default. Click "Buildings" and select "Topology", as shown in Figure 1-3.

ETS5™ - HDL (3) ETS Edit Workplace Con	nmissioning Diagn	ostics Extras V	Vindow			
👩 Close Project 🛛 🏑 Undo	🐴 Redo 🔒	Reports	Workplace 🔻 📃 Catalogs	Diagnostic	s	
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📰 Group Addresses	Room	Description	Application Program	Adr	Settings Com	. Infor
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Devices						
🚔 Reports						
📑 Catalog						
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					🔑 Find and Rep	lace
					Workspaces	
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Figure 1-3 Add devices to projects (1)



② Figure 1-4 shows "Topology" page, click the arrow beside "Add Areas" and select "Devices", and the catalog page will show up below.

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ETS Edit Workplace Com	missioning Dia	agnostics Extras	s Window					^ <b>(</b> )
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Topology 🔻							^ □	×
🕂 Add Areas 🔽 🗙 Delete 🛨	Download 💌 🌔	🚺 Info 🔹 🕤 Re	eset 🧳 Unload 🔻 🚔 Print			Search		
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Figure 1-4 Add devices to projects (2)



③ As shown in Figure 1-5, click "HDL" in "Manufactures" column and select devices to be added to the project on the right. Drag devices to the above area (Method 1) or click "Add" button to add devices after clicking the location needed to add projects below (Method 2).

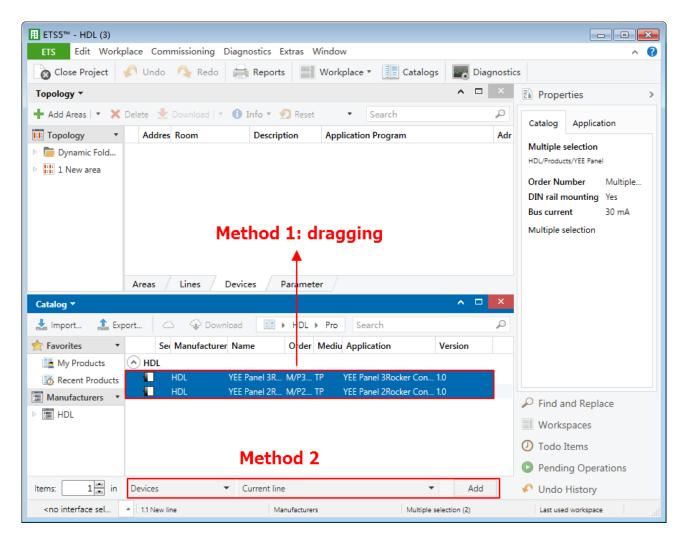


Figure 1-5 Add devices to projects (3)



#### 1.1.2 Import Projects (.knxproj)

As shown in Figure 1-6. Open ETS5 and click "Import project" button of "Your Project" tab of "Overview" page and import obtained KNX project files with the suffix of .knxproj. After importing projects, added/created projects will be listed below. Double click to edit.

ETS5™ ETS					
Overview	Bus	Catalogs	Settings		KNX
Your Projects	Project Arc	hive		KNX News	New KNX Products
+ 🎢 🛃 🏦 Name Last Mo	dified ▼ Status	Search	Q	Modern, Massive, Moscow – The 15th KNX National Group Conference kicked off with many surprises	True Presence®  Multisensor KNX Steinel GmbH (Germany)
HDL 2019/10/	12 14:22 Unknowr			2019/10/7 This year, the 15th KNX National Group Conference welcomed delegates from 20 countries. Hosting city was Moscow – Not known by many, but appreciated by all. The first day's agenda had various surprises for the delegates regarding the future o KNX Association, Tools, and upcoming events. The day after followed with additional presentations and discussion on Social Media activites, best practices and other open subject were discussed between KNX and its National Groups Although both days required the full attention of the delegates, all delegates are anticipating the	f 7 senses for KNX. Welcome to the new era in building sensor technology! True Presence® provides absolutely reliable information on human presence and absence. The revolutionary technology is here a service service is in
				NETx Multi Protocol Server	Certified KNX Products See a list of all certified KNX products here.
				ETS Version ETS 5.6.4 (Bu	uild 842) 1 License Demo Apps 0 active

Figure 1-6 Import projects



#### 1.2 Open Configuration Window

Double click the project to be configured. Click "Workspace"  $\rightarrow$  "Open New Panel"  $\rightarrow$  "Topology" to open the window, as shown in Figure 1-7.

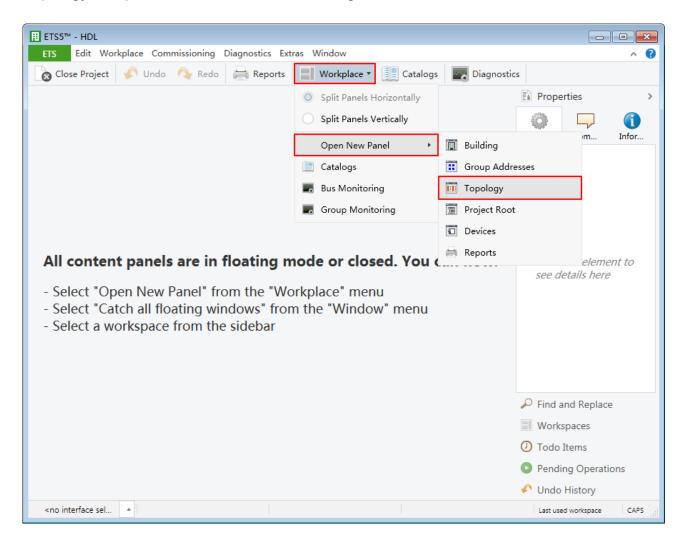


Figure 1-7 Open configuration window



## 2 General

#### 2.1 General Setting

In topology skeleton on the left side of topology page, click the devices to be set and select "General" in "Parameter" option, as shown in Figure 2-1.

III ETS5™ - KNX DALI ETS Edit Workplace Commissio	ning Diagnostics Extras Window		
	Redo Reports Workplace •	Catalogs	0.0
Topology -		· · · · · · · · · · · · · · · · · · ·	<b>∂</b> × <
	wnload 🛛 🔻 🕜 Help 🌛 Highlight Changes	Default Parameters	
> 1.1.1 M/DALI.1 > General			
General	System delay(3255s)	3	
Internal       General       Functions	Heartbeat telegram	🔵 Disable 🔘 Enable	1
ALI.1	-Send	Send '1' cyclically	
	->Time interval(165535s)	5 ‡	
	Test(left short button)	Disable Enable	
	Function on/off(right short button)	Disable Enable	
	New address(left long button)	Disable Enable	
	Remove all address(right long button)	O Disable C Enable	
	Replace the ballast(left & right long button)	O Disable C Enable	
	DALI communication fault-tolerant	FT-1(standard)	
	Adjustment delay time for query actual level	+0 s 🔻	
	DALI power supply output	O Disable C Enable	
	Operation mode	🔵 Disable 🔘 Enable	
	-Energy saving mode:trigger	🔵 '1'-start,'0'-stop 🔘 '0'-start,'1'-stop	
	-Energy saving mode:after stop	To normal 'Brightness status value'	
Group Objects Parameter		· · · · · · · · · · · · · · · · · · ·	v
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Figure 2-1 General setting

- 1. System delay (3..255s): time-delay function, namely a delay time between powering on the device and activating the system, which ranges from 3 to 255s. The default value is 3s.
- 2. Heartbeat telegram: after "Enable" is selected, the setting items are as follows:



- 1) Send: to select heartbeat telegram type.
  - ① If "Send '0' cyclically" is selected, the device will send "0" on the KNX bus at a set time interval.
  - ② If "Send '1' cyclically" is selected, the device will send "1" on the KNX bus at a set time interval.
  - ③ If "Send '1/0' inverted cyclically" is selected, the device will send "0" and "1" alternately and cyclically on the KNX bus at a set time interval.
  - ④ If "Send '1' after request" is selected, "Read target" operation is required to send requests. So that the device can send "1" on the KNX bus.
  - ⑤ If "Send '0' after request" is selected, "Read target" operation is required to send requests. So that the device can send "0" on the KNX bus.
- 2) Time interval: to set the time interval of sending heartbeat telegram, which ranges from 1 to 65535s. The default value is 5s.
- 3. Test (left short button): test function.
  - If "Enable" is selected, DALI Gateway will enter test mode after "Test" button (in the left side of the panel) is pressed.
    - a) In test mode, every ballast will start a process of "the maximum brightness → brightness 0", which is controlled by DALI Gateway. If ballasts belong to Device Type 8, every ballast will start a process of "the maximum brightness → the maximum color temperature (the coldest color temperature) → brightness 0", which is controlled by DALI Gateway.
    - b) When a ballast is being tested, "Status" indicator will be green. After a device is tested, "Status" indicator will go out. In the process, "DALI" indicator will flash in red and green alternately, quickly and transiently.
    - c) According to ballast addresses in a sequence from small to large, test mode will work until the last ballast test is completed.
  - If "Disable" is selected, the test function of "Test" button (in the left side of the panel) will be invalid.

Test time interval: after "Enable" is selected in the third point "Test (left short button)", the time interval of testing ballasts can be set, which ranges from 2 to 255s. The default value is 2s.

- 4. Function on/off (right short button): broadcast control function.
  - If "Enable" is selected, DALI Gateway will enter broadcast mode after "FUN" button (in the right side of the panel) is pressed. DALI Gateway will enable broadcast function according to the configuration of broadcast function ("Status" indicator is red).



Broadcast function will be disabled by pressing "FUN" button again ("Status" indicator goes out). In the process, "DALI" indicator will flash in red and green alternately, quickly and transiently. If ballasts belong to Device Type 8 and "Colour Control Type=Colour Temperature" has been configured in the broadcast function of DALI Gateway, DALI Gateway will regulate ballasts to the set color temperature. If ballasts do not belong to Device Type 8, this configuration will not work.

- If "Disable" is selected, the broadcast function of "FUN" button (in the right side of the panel) will be invalid.
- 5. New address (left long button): reassigning ballast address function. This function can remove original ballast addresses, so please pay attention.
  - If "Enable" is selected, users keep pressing "Test" button (on the left of the panel) for 30s until DALI Gateway starts to flash, and DALI Gateway will enter reassigning ballast address mode.
    - a) In reassigning ballast address mode, "Status" indicator will flash in green at the frequency of 1s on and 1s off. After all addresses are reassigned, "Status" indicator stops flashing.
    - b) After all addresses are reassigned, DALI Gateway will reread all ballast parameters. "DALI" indicator will stop flashing in green and flash in red and green alternately and quickly, which lasts until all parameters are reread.
  - If "Disable" is selected, the reassigning ballast address function of "Test" button (in the left side of the panel) will be invalid.
- 6. Remove all address (right long button): removing ballast address function. This function can clear all ballast addresses, so please pay attention.
  - If "Enable" is selected, users keep pressing "FUN" button (in the right side of the panel) for 30s until DALI indicator starts to flash, and DALI Gateway will enter removing ballast address mode. "Status" indicator will flash in red for 3 times at the frequency of 1s on and 1s off.
  - If "Disable" is selected, the removing ballast address function of "FUN" button (in the right side of the panel) will be invalid.
- 7. Replace the ballast (left & right long button): replacing ballast function.
  - If "Enable" is selected, users keep pressing "Test" button (in the left side of the panel) and "FUN" button (in the right side of the panel) for 15s until "DALI" indicator starts to flash, and DALI Gateway will enter replacing ballast mode.
    - a) If there are ballasts to restore, "Status" indicator will flash 6 times at the frequency of 1s red and 1s green and goes out. In the process, DALI Gateway will flash in red and green alternately and quickly.



- b) If fault ballasts have not been recorded or ballasts to be restored have not been found, "Status" indicator will be red for 3s and go out.
- c) DALI module needs to be refreshed before fault ballasts are recorded. Refresh methods are as follows:

Method 1: to automatically refresh DALI Gateway via restarting.

Method 2: to automatically refresh DALI Gateway via powering down and restoring DALI bus voltage (powering down and restoring 220V power).

Method 3: to manually refresh DALI Gateway via auxiliary software.

- d) If the ballast for replacement already has an address, this ballast address may conflict with existing ballast addresses and can't be found in replacing ballast mode.
- e) Every time replacing ballast function is enabled, only one fault ballast can be restored. If several fault ballasts need to be replaced, this function should be enabled several times.
- f) Replacing ballast mode works according to ballast addresses in a sequence from small to large, but replaced ballast addresses may not match with original addresses. For example, when ballast addresses to be replaced are A0, A1, and A2. After replacement, the ballast addresses of original positions may turn to be A1, A2 and A0.
- g) In replacing ballast mode, what can be restored are the addresses and group information of ballasts. The scene information stored in ballasts can't be restored.
- If "Disable" is selected, there will be no response after users keep pressing "Test" button (in the left side of the panel) and "FUN" button (in the right side of the panel).
- DALI communication fault-tolerant: to select DALI communication fault-tolerant levels (a total of 10 levels). DALI communication fault-tolerant controls the transmission interval of DALI commands, to solve the signal conflict of several devices on the bus. Higher faulttolerant level means greater transmission interval. Default level FT-1 usually is selected.
- 9. Adjustment delay time for query actual level: after DALI Gateway changes ballast brightness, DALI Gateway will automatically query the actual brightness of ballasts. Delay time works from the last operation of changing ballast brightness. And DALI Gateway will send the actual brightness of ballasts to the KNX bus, which is based on the configuration of status feedback function.
- 10. DALI power supply output: DALI bus power output function, the default status is "enabled".
  - If "Enable" is selected, DALI Gateway will generate voltage output compliant with DALI bus standard between D+ and D- port.



- If "Disable" is selected, DALI Gateway will not generate voltage output compliant with DALI bus standard. Meanwhile, "DALI" indicator will be red and green (shown as brownish red), which indicates fault bus voltage.
- 11. Operation mode: after "Enable" is selected, working mode can be selected below. Specific working mode can be set in corresponding "Broadcast/Group/Channel" function setting page.
  - 1) Energy saving mode: trigger: to set the control method of energy saving mode.
    - If "'1'-start, '0'-stop" is selected, energy saving mode will be enabled after "1" is written to objects, while energy saving mode will be disabled after "0" is written to objects.
    - ② If "'0'-start, '1'-stop" is selected, energy saving mode will be enabled after "0" is written to objects, while energy saving mode will be disabled after "1" is written to objects.
  - 2) Energy saving mode: after stop: to set the light brightness after exiting energy saving mode.
    - ① If "Switch ON" is selected, light brightness will be the initial brightness.
    - 2 If "Switch OFF" is selected, lights will be turned off.
    - ③ If "To normal 'Brightness status value'" is selected, light brightness will be the brightness before entering energy saving mode.
  - 3) Night mode: trigger: to set the control method of night mode.
    - ① If "'1'-start, '0'-stop" is selected, night mode will be enabled after "1" is written to objects, while night mode will be disabled after "0" is written to objects.
    - ② If "'0'-start, '1'-stop" is selected, night mode will be enabled after "0" is written to objects, while night mode will be disabled after "1" is written to objects.
  - 4) Night mode: after stop: to set the light brightness after exiting night mode.
    - 1) If "Switch ON" is selected, light brightness will be the initial brightness.
    - 2 If "Switch OFF" is selected, lights will be turned off.
    - ③ If "To normal 'Brightness status value'" is selected, light brightness will be the brightness before entering night mode.
- 12. Fault detection: after "Enable" is selected, click "Fault" label in the parameter list on the left and setting items will appear in the open page.



#### 2.2 Fault Detection

After "Enable" is selected at the bottom of general setting page, click "Fault" label in the parameter list on the left, as shown in Figure 2-2.

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+	🛚 Add Channels   🔹 🗙 Delete  🛨 Dov	wnload 🛛 🔻 🕜 Help 🥒 Highlight Changes	Default Parameters		
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M/DA	Fault	-Detect time interval(565535s)	10	*	
11.1	Functions	Manual detect faults(detect all ballasts)	Oisable O Enable		
		-Detect	'1'-Detect	•	
		Address of fault ballast	🔵 Disable 🔘 Enable		
		Total number of fault ballast	🔵 Disable 🔘 Enable		
		-Send	Always 🔘 After changed		
		DALI bus fault	🔵 Disable 🔘 Enable		
		-Send	After changed, period send when fault	-	
		-Send value	<ul> <li>○ '1'-Alarm,'0'-No alarm</li> <li>○ '0'-Alarm,'1'-No alarm</li> </ul>		
		-Send time interval(1255s)	5	* *	
	Group Objects Parameter				
	HDL USB Interface A 1.1 新建支线	1.1.1 M/DALI.1		Last used workspace	

Figure 2-2 Fault detection

- 1. Automatic cycle detect faults: to enable/disable automatic cycle fault detection function.
  - Detect time interval: after "Enable" is selected in "Automatic cycle detect faults", the time interval of detecting faults can be set, which ranges from 5 to 65535s. The default value is 10s.
- Manual detect faults: manual fault detection function. This function can detect all faults, including ballast fault, light fault and DALI bus fault in broadcast, group or channel. If "Disable" is selected, manual fault detection function will be invalid.



- Detect: after "Enable" is selected in "Manual detect fault", users can select the control method of manual fault detection.
  - ① If "'0'-Detect" is selected, detection will be started after "0" is sent.
  - 2 If "'1'-Detect" is selected, detection will be started after "1" is sent.
  - ③ If "'1'/'0'-Detect" is selected, detection will be started after "1" or "0" is sent.
- 3. Address of fault ballast: to send fault ballast addresses (0-63 respectively responds to A0-A63).
- 4. Total number of fault ballast: to enable sending the number of fault ballasts.
  - Send: after "Enable" is selected in "Total number of fault ballast", the sending type can be set.
    - ① If "Always" is selected, the number of fault ballasts will be sent after detection.
    - ② If "After changed" is selected, the number of fault ballasts will be sent after the number changes.
- 5. DALI bus fault: to enable/disable DALI bus fault detection function.
  - 1) Send: after "Enable" is selected in "DALI bus fault", users can set the sending type after detection.
    - ① If "After detected (alarm 1 times)" is selected, the fault signal will be sent once after bus fault is detected.
    - ② If "After detected & changed" is selected, the fault signal will be sent once after bus status changes, namely the fault signal will be sent when faults happen on the bus, and the fault signal will be sent again when the bus turns to be normal.
    - ③ After "After changed, period send when fault" is selected, the fault signal will be sent after bus status changes. Namely the fault signal will be sent periodically (the period is set in "Send time interval") when faults happen on the bus, and the fault signal will be sent once when the bus turns to be normal.
  - 2) Send value: after "Enable" is selected in "DALI bus fault", the type of value to be sent can be selected.
    - ① If "'1'-Alarm, '0'-No alarm" is selected, "1" will be sent after faults are detected, while "0" will be sent after no fault is detected.
    - ② If "'0'-Alarm, '1'-No alarm" is selected, "0" will be sent after faults are detected, while "1" will be sent after no fault is detected.
  - 3) Send time interval: after "After changed, period send when fault" is selected in the fifth point "Send", users can set the time interval of sending fault status. Time interval ranges from 1 to 255s. The default value is 5s.

### **3** Functions Selection

Click "Functions" label in parameter list to enable gateway functions in the open page, as shown in Figure 3-1.

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То	opology 🔻			∧ ⊡ ×	<
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> =	1.1.1 M/DALI.1 > Functions				
1.1.1 M/DALI.1	General	Broadcast	O Disable C Enable		
M/D,	Fault	Group	Disable Enable		
ALI.1	Functions	Channel	Disable Enable		
		Scene	Disable Enable		
	Group Objects Parameter	Additional functions	Oisable O Enable		
	Group Objects / Parameter HDL USB Interface	1.1.1 M/DALL1		Last used workspace	d
		1.1.1 M/DALL1		Last used workspace	

Figure 3-1 Select function

DALI Gateway supports:

- 1. Broadcast
- 2. Group: up to 16 groups can be configured.
- 3. Channel: up to 64 channels can be configured.
- 4. Scene: up to 16 scenes can be configured.
- 5. Additional functions: including staircase light, sequence and emergency light function.



### 4 Broadcast

#### 4.1 General Setting

After "Broadcast" is enabled in function selection page, click "Broadcast" label in the parameter list on the left, as shown in Figure 4-1.

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	1.1.1 M/DALI.1 > Broadcast				
	General	Colour Control Type	None O Colour Temperature		
1.1.1 M/DALL1	Fault	Brightness value when switch ON	100%(255)	•	1
AU1.1	Functions	Colour temperature value when switch ON	3000	*	
	Broadcast	Colour control behavior when switch ON	<ul> <li>Last Colour Temperature</li> <li>Colour Temperature Above</li> </ul>		
	-B:status	Permit be turned on via relative dimming telegram	No O Yes		
	-B:scenes	Switching ON(1bit):time for reach switch on	2.0s	•	
		Switching OFF(1bit):time for reach switch off	2.0s	•	
		Relative dimming(4bits):time for 0100%	5.6s	•	
		Absolute dimming(8bits):time for reach set brightness value	2.0s	•	
		Mode			
		Operation mode	Oisable O Enable		
		-Energy saving mode	🔵 No 🔘 Yes		
		->Value in energy saving mode	38%	•	
	$\backslash$	-Night mode	No O Yes		J
	Group Objects Parameter				
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Figure 4-1 General setting

- 1. Colour control type: to enable color temperature control function. If light brightness is 0 when broadcast is enabled, color temperature settings do not work.
  - > If "None" is selected, color temperature control function will be disabled.



- If "Colour Temperature" is selected, color temperature control function will be enabled.
  - 1) Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in "Colour control behavior when switch ON" (adjustable color temperature of ballasts universally ranges from 2700 to 6500K. If set color temperature is beyond this range, the effect depends on ballasts. Generally, ballasts will take the upper color temperature value when set color temperature values are above the upper limit. While ballasts will take the lower color temperature value when set color temperature values are below the lower limit).
  - 2) Colour control behavior when switch ON: to set color temperature operation when broadcast is enabled.
    - 1) If "Last Colour Temperature" is selected, color temperature will be the last recorded color temperature value when broadcast is enabled.
    - 2 If "Colour Temperature Above" is selected, color temperature takes the value set in "Colour temperature value when switch ON".
- 2. Brightness value when switch on: to set the initial brightness of lights.
- 3. Permit be turned on via relative dimming telegram:
  - > If "Yes" is selected, lights can be turned on by relative dimming telegram.
  - > If "No" is selected, lights can't be turned on by relative dimming telegram.
- 4. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
- 5. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out, the default value is 2s.
- 6. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s. This fade time corresponds to fade rate, which indicates dimming speed instead of the time when light brightness turns from 0 to 100%. If relative dimming is not stopped, light brightness will be regulated to the maximum brightness or the minimum brightness. The relative dimming command can't turn off lights.
- 7. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
- 8. Operation mode: after "Enable" is selected, working mode can be selected below.



1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after "Yes" is selected.

Value in energy saving mode: to set the light brightness in energy saving mode.

- 2) Night mode: to enable/disable night mode. The following items can be set after "Yes" is selected.
  - ① Delay in night mode: to set the delay time of entering night mode.
  - ② Value in night mode: to set the light brightness in night mode.
- 9. Broadcast scenes: to enable controlling scenes via broadcast.

Broadcast scenes for recovery: after "Enable" is selected in "Broadcast scenes", scene restoration type can be selected after voltage recovery.

- 1 If "Disable" is selected, scene restoration function will be disabled after voltage recovery.
- ② If "Last Scene" is selected, the last recorded scene can be restored.
- ③ If "Scene No.N (N=1, ..., 16)", scene 1-16 can be selected to restore.

#### 4.2 Status Feedback

After "Broadcast" is enabled in function selection page, click "-B: status" label in the parameter list on the left, as shown in Figure 4-2.

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	1.1.1 M/DALI.1 > -B:status					
	General	Status:			^	
	Fault	Response of switch status(1bit)	🔵 Disable 🔘 Enable			1
	Functions	-Send status	Always response	•		
	Broadcast	-Switch status value	<ul> <li>'1'-(ON lamps&gt;0),'0'-(ON lamps=0)</li> <li>'0'-(ON lamps&gt;0),'1'-(ON lamps=0)</li> </ul>			
	-B:status	Response of brightness status(1byte)	🔵 Disable 🔘 Enable			
		-Send status	After changed	•		
	-B:scenes	-Brightness status value	Highest brightness of lamps	•		
		Response of colour temperature status (2byte)	O Disable O Enable			
		-Send status	Always response	•		
		Lamp fault status	🔵 Disable 🔘 Enable			
		-Send	After detected & changed	•		
		-Send value	◎ '1'-Alarm,'0'-No alarm ○ '0'-Alarm,'1'-No alarm			
		Ballast fault status	🔵 Disable 🔘 Enable			
		-Send	After detected & changed	•		
		Sand value	🔵 '1'-Alarm,'0'-No alarm		~	

Figure 4-2 Status feedback

- Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object). The following items can be set after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected:
    - a) After any operation changing broadcast switch status (including broadcast switch and broadcast absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level".
    - b) When lights are turned on via broadcast relative dimming, the status will be compulsorily sent to the bus once.



- c) Broadcast switch status can also be changed by any operation changing light brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level". DALI Gateway calculates broadcast brightness according to the settings in "Brightness status value". If this setting is not enabled, DALI Gateway will take the maximum brightness as broadcast brightness.
- d) The value sent to the bus depends on the configuration of "Switch status value".
- ② If "After changed" is selected, the status will be sent to the bus when broadcast switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.
- ③ If "After requested" is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.
- 2) Switch status value: to select feedback data type.
  - If "'1'-ON lamps > 0, '0'-ON lamps=0" is selected, "1" will be sent when the number of lighted lights is above 0, while "0" will be sent when the number of lighted lights is equal to 0.
  - ② If "'0'-ON lamps > 0, '1'-ON lamps=0" is selected, "0" will be sent when the number of lighted lights is above 0, while "1" will be sent when the number of lighted lights is equal to 0.
  - ③ The number of lighted lights depends on broadcast brightness. DALI Gateway calculates broadcast lightness according to the settings in "Brightness status value". When broadcast brightness is greater than 0, it indicates that the number of lighted lights is above 0. When broadcast brightness is equal to 0, it indicates that the number of lighted lights is equal to 0.
- 2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected, light brightness will be sent to the bus after any operation.
    - ② If "After changed" is selected, light brightness will be sent to the bus after the status changes.
    - ③ If "After requested" is selected, light brightness will be sent to the bus after requests are sent.
  - 2) Brightness status value: to select data feedback type.



- ① If "Average brightness of lamps" is selected, the average brightness of lights will be sent to the bus.
- ② If "Highest brightness of lamps" is selected, the maximum brightness of lights will be sent to the bus.
- ③ If "Lowest brightness of lamps" is selected, the minimum brightness of lights will be sent to the bus.

**Note:** the feedback rule of "Response of brightness status (1 byte)" is the same as that of "Response of switch status (1 bit)". The difference is that, in "Response of brightness status (1 byte)", when lights are turned on via broadcast relative dimming, the status will not be compulsorily sent to the bus once.

- 3. Response of colour temperature status (2 bytes): to enable color temperature status feedback function.
  - Send status: to select color temperature feedback type after "Enable" is selected in "Response of colour temperature status (2 bytes)".
    - ① If "Always response" is selected, the status will be sent to the bus after any operation.
    - ② If "After changed" is selected, the status will be sent to the bus after the status changes.
    - ③ If "After requested" is selected, the status will be sent to the bus after requests are sent.

**Note:** every time color temperature control function is enabled, the status will be sent at once to the bus. So far, feedback telegram represents color temperature value. For example, 3000K is represented as 014D (333 Mirek). The formula is "Mirek=1000000/T" (T represents color temperature value).

- 4. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after "Enable" is selected:
  - 1) Send: to select light status feedback type.
    - 1) If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
    - ② If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).
    - ③ If "After detected & changed" is selected, after detection, feedback telegram will be sent after fault status changes.
  - 2) Send value: to select telegram value feedback type.



- 1 If "1-Alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
- ② If "0-Alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 5. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after "Enable" is selected:
  - 1) Send: to select ballast status feedback type.
    - ① If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
    - ② If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).
    - ③ If "After detected & changed" is selected, after detection, telegram will be sent after fault status changes.
  - 2) Send value: to select telegram value feedback type.
    - If "1-Alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
    - ② If "0-Alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 6. Brightness recovery: to set the light brightness after voltage recovery.
  - If "Disable" is selected, light brightness restoration function will be disabled after voltage recovery.
  - If "Last brightness" is selected, the light brightness before power down will be restored.
  - If "Switch ON brightness" is selected, the initial light brightness when broadcast is enabled will be restored.
  - ▶ If "0-100%" is selected, light brightness can be restored to 0-100%.
- 7. Colour temperature recovery: this option will appear after "Colour temperature" is selected in the first point "Colour control type" of broadcast general setting.
  - > If "Disable" is selected, color temperature restoration function will be disabled.
  - If "Last Colour Temperature" is selected, the color temperature value before power down will be restored.
  - > If "Switch ON colour temperature" is selected, the color temperature value is the value



when broadcast is enabled. Please refer to the settings in "Colour temperature value when switch ON" and "Colour control behavior when switch ON" of broadcast general setting.

- If "Colour temperature below" is selected, color temperature value can be selected, which is set in the 8th point "Colour temperature for recovery" below.
- 8. Colour temperature for recovery: this parameter works after "Colour temperature below" is selected in the above 7th point "Colour temperature recovery". Color temperature can be set from 1000 to 10000K. The default value is 3000K.

#### 4.3 Scene Setting

After "Broadcast scenes" is enabled in broadcast setting page, click "-B: scenes" label in the parameter list on the left, as shown in Figure 4-3.

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11	General		Broadcast Scenes		^ O
1.1.1 M/DALI.1	Fault		Scenes source	○ Scene in master ◎ Scene in ballast	*
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	Functions		Scene 1 Enable	No Ves	
	Broadcast		Scene 2 Enable	◎ No ○ Yes	
	-B:status		Scene 3 Enable	◎ No ○ Yes	
	-B:scenes		Scene 4 Enable	◎ No ○ Yes	
			Scene 5 Enable	◎ No ○ Yes	
			Scene 6 Enable	◎ No ○ Yes	
			Scene 7 Enable	◎ No ○ Yes	
			Scene 8 Enable	◎ No ○ Yes	
			Scene 9 Enable	◎ No ○ Yes	
			Scene 10 Enable	◎ No ○ Yes	
			Scene 11 Enable	◎ No ○ Yes	
			Scene 12 Enable	No Yes	
			Scene 13 Enable	O No Ves	<b>~</b>
	Group Objects	Parameter			
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Figure 4-3 Scene setting



The setting items are explained below:

1. Scenes source: to select "Scene in master" or "Scene in ballast" (only one scene is available at one time).

Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway.

Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.

- 2. Dimming time for broadcast scenes: to set the fade time of scene dimming. If "Same as absolute dimming time" is selected, the fade time of scene dimming is the same as that of broadcast absolute dimming.
- > If "Scene in master" is selected in "Scenes source", the following items can be set:
  - Broadcast scene N colour control type: to select the control type of light brightness in this scene. If "None" is selected, color temperature control function will be disabled. If "Colour Temperature" is selected, color temperature control function will be enabled.
  - 2) Broadcast scene N brightness value: to set the light brightness in this scene, including "Inactive" and "0-100%".

Broadcast scene N colour temperature: to set the color temperature value of light in this scene, after "Colour temperature" is selected in "Broadcast scene N colour control type". Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Broadcast scene N brightness value", color temperature settings do not work.

> If "Scene in ballast" is selected in "Scenes source", the following items can be set:

Scene N enable: to call the scenes saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after "Enable" is selected. After scenes are set, scenes can be called via the object "20: Call Broadcast Scene (1 byte)".



## 5 Group

#### 5.1 Group Selection

After "Group" is enabled in function selection page, click "Groups" label in the parameter list on the left, as shown in Figure 5-1.

**Note:** up to 16 groups can be configured in DALI Gateway, including single group control and corresponding group scene.

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→ 亡	1.1.1 M/DALI.1 > Groups			
1.1.1 M/DALI.1	General	Group 1 & Group 2	O Disable C Enable	0
M/D/	Fault	Group 3 & Group 4	O Disable 🗌 Enable	
11.1	Functions	Group 5 & Group 6	O Disable O Enable	
	Groups	Group 7 & Group 8	O Disable 🗌 Enable	
		Group 9 & Group 10	🔘 Disable 🔵 Enable	
		Group 11 & Group 12	🔘 Disable 🔵 Enable	
		Group 13 & Group 14	O Disable 🗌 Enable	
		Group 15 & Group 16	🔘 Disable 🔵 Enable	
		Scenes:		
		Group Scenes	O Disable O Enable	
	Group Objects Parameter			
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Figure 5-1 Select group

The setting items are explained below:

1. Group N & N+1 (N=1, ..., 15): to enable/disable the selected group.



2. Group scenes: to enable scene. If "Disable" is selected, all group scene function configured singly will not work.

Scene restoring function configured singly will not work.

#### 5.2 Group Setting

After groups are enabled in group selection page ("Group 1 & Group 2" is taken as an example), click "Group 1" label, as shown in Figure 5-2.

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> 1	1.1.1 M/DALI.1 > >Group 1				
1.1.1	General	Group 1 Name	Group 1		
1.1.1 M/DALI.1	Fault	Colour Control Type	None O Colour Temperature	¥1	
NUI.1	Functions	Brightness value when switch ON	100%(255)	•	
	Groups	Colour temperature value when switch ON	3000	*	
	>Group 1	Colour control behavior when switch ON	<ul> <li>Last Colour Temperature</li> <li>Colour Temperature Above</li> </ul>		
	-G1:status	Permit be turned on via relative dimming telegram	No Yes		
	-G1:scenes in master	Switching ON(1bit):time for reach switch on	11.3s	•	
	-G1:scenes in ballast	Switching OFF(1bit):time for reach switch off	2.0s	•	
	>Group 2	Relative dimming(4bits):time for 0100%	5.6s	•	
	-G2:status	Absolute dimming(8bits):time for reach set brightness value	2.0s	•	
		Mode			
		Operation mode	🔵 Disable 🔘 Enable		
		-Energy saving mode	◎ No ○ Yes		
		-Night mode	No O Yes	•	
	Group Objects Parameter				
	HDL USB Interface 🔺 1.1 新建支线	1.1.1 M/DALL1		Last used workspace	

Figure 5-2 Group setting



- 1. Group N (N=1, ..., 16) Name: to change group name.
- 2. Colour control type: color temperature control function. If light brightness is 0, color temperature settings do not work.
  - > If "None" is selected, color temperature control function will be disabled.
  - > If "Colour Temperature" is selected, color temperature control function will be enabled.
    - Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in "Colour control behavior when switch ON".
    - 2) Colour control behavior when switch ON: to set the color temperature operation when group is enabled.
      - ① If "Last Colour Temperature" is selected, the color temperature value is the last recorded value when group is enabled.
      - ② If "Colour Temperature Above" is selected, color temperature takes the value set in "Colour temperature value when switch ON" above.
- 3. Brightness value when switch on: to set the initial brightness of light.
- 4. Permit be turned on via relative dimming telegram:
  - > If "Yes" is selected, lights can be turned on by relative dimming telegram.
  - > If "No" is selected, lights can't be turned on by relative dimming telegram.
- 5. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
- 6. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out.
- 7. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s.
- 8. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
- 9. Operation mode: after "Enable" is selected, working mode can be selected below, including energy saving mode and night mode.
  - 1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after "Yes" is selected.
    - > Value in energy saving mode: to set the light brightness in energy saving mode.



- 2) Night mode: to enable/disable night mode. The following items can be set after "Yes" is selected.
  - ① Delay in night mode: to set the delay time of entering night mode.
  - ② Value in night mode: to set the light brightness in night mode.
- 10. Group N scenes: to enable controlling scenes via group. If "Disable" is selected, none of the following options will appear.
  - 1) Group N scenes recovery: after "Enable" is selected in "Group N scenes", scenes can be selected after voltage recovery.
    - 1) If "Last Scene" is selected, the recorded scene before power down can be restored.
    - ② If "Scene In Master, Use Scene below" is selected, scenes in master will be called. Scene number can be selected in "Group N scene for recovery" below.
    - ③ If "Scene In Ballast, Use Scene below" is selected, scenes in ballast will be called. Scene number can be selected in "Group N scene for recovery" below.
  - Group N scene for recovery: after "Enable" is selected in "Group N scenes", scenes can be selected from 1 to 16. If "Disable" is selected in "Group scenes recovery" of group selection page, none of the following settings will work.
    - 1 If "Last Scene" is selected in "Group N scenes recovery", this option will not work. DALI Gateway will automatically record the last scene.
    - ② If "Scene In Master, Use Scene below" is selected in "Group N scenes recovery", user can select the scenes saved in master to restore.
    - ③ If "Scene In Ballast, Use Scene below" is selected in "Group N scenes recovery", user can select the scenes saved in ballast to restore.

#### 5.3 Status Feedback

After groups are enabled in group selection page ("Group 1 & Group 2" is taken as an example), click "G1: status" label, as shown in Figure 5-3.

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	General	Status:			0
1.1.1 M/DALI.1	Fault	Response of switch status(1bit)	🔵 Disable 🔘 Enable		٢
ALI.1	Europhices.	-Send status	After changed	-	
	Functions Groups	-Switch status value	<ul> <li>'1'-(ON lamps&gt;0),'0'-(ON lamps=</li> <li>'0'-(ON lamps&gt;0),'1'-(ON lamps=</li> </ul>		
	>Group 1	Response of brightness status(1byte)	O Disable C Enable		
	-G1:status	Response of colour temperature status (2byte)	O Disable C Enable		
	Gristeres	Lamp fault status	O Disable C Enable		
	-G1:scenes in master	Ballast fault status	🔵 Disable 🔘 Enable		
	-G1:scenes in ballast	-Send	After detected(alarm,no alarm)	•	
	>Group 2	-Send value	◎ '1'-Alarm,'0'-No alarm		
	-G2:status	Status recovery:	0'-Alarm,'1'-No alarm		
		Brightness recovery	Disable	•	
		Colour Temperature recovery	Disable	•	
		Colour Temperature for recovery	3000	*	
	Group Objects Parameter				
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Figure 5-3 Status feedback

- 1. Response of switch status (1 bit): to enable/disable group switch status feedback function (with 1-bit object). The following items can be selected after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected:
      - a) After any operation changing group switch status (including group switch and group absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level".
      - b) When lights are turned on via group relative dimming, the status will be



compulsorily sent to the bus once.

- c) Group switch status can also be changed by any operation changing light brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level". DALI Gateway calculates group brightness according to the settings in "Brightness status value". If this setting is not enabled, DALI Gateway will take the maximum brightness as group brightness.
- d) The value sent to the bus depends on the configuration of "Switch status value".
- ② If "After changed" is selected, the status will be sent to the bus when group switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.
- ③ If "After requested" is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.
- 2) Switch status value: to select data feedback type.
  - If "'1'-ON lamps > 0, '0'-ON lamps=0" is selected, "1" will be sent when the number of lighted lights is above 0, while "0" will be sent when the number of lighted lights is equal to 0.
  - ② If "'0'-ON lamps > 0, '1'-ON lamps=0" is selected, "0" will be sent when the number of lighted lights is above 0, while "1" will be sent when the number of lighted lights is equal to 0.
  - ③ The number of lighted lights depends on group brightness. DALI Gateway calculates group lightness according to the settings in "Brightness status value". When broadcast brightness is greater than 0, it indicates that the number of lighted lights is above 0. When broadcast brightness is equal to 0, it indicates that the number of lighted lights is equal to 0.
- 2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected, light brightness will be sent to the bus after any operation.
    - ② If "After changed" is selected, light brightness will be sent to the bus after the status changes.
    - ③ If "After requested" is selected, light brightness will be sent to the bus after requests are sent.



- 2) Brightness status value: to select data feedback type.
  - ① If "Average brightness of lamps" is selected, the average brightness of lights will be sent to the bus.
  - ② If "Highest brightness of lamps" is selected, the maximum brightness of lights will be sent to the bus.
  - ③ If "Lowest brightness of lamps" is selected, the minimum brightness of lights will be sent to the bus.

**Note:** the feedback rule of "Response of brightness status (1 byte)" is the same as that of "Response of switch status (1 bit)". The difference is that, in "Response of brightness status (1 byte)", when lights are turned on via group relative dimming, the status will not be compulsorily sent to the bus once.

- 3. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after "Enable" is selected:
  - 1) Send: to select light status feedback type.
    - ① If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
    - 2 If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).
    - ③ If "After detected & changed" is selected, after detection, telegram will be sent after fault status changes.
  - 2) Send value: to select feedback value type.
    - 1 If "1-Alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
    - ② If "0-Alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 4. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after "Enable" is selected:
  - 1) Send: to select ballast status feedback type.
    - ① If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
    - ② If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).



- ③ If "After detected & changed" is selected, after detection, feedback telegram will be sent after fault status changes.
- 2) Send value: to select telegram value feedback type.
  - 1 If "1-Alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
  - ② If "0-Alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 5. Brightness recovery: to set the light brightness after voltage recovery.
  - If "Disable" is selected, light brightness restoration function will be disabled after voltage recovery.
  - If "Last brightness" is selected, the light brightness before power down will be restored.
  - > If "Switch ON brightness" is selected, the initial brightness of light will be restored.
  - ▶ If "0-100%" is selected, light brightness can be restored to 0-100%.

### 5.4 Scene Setting

In group scene, scenes in master and in ballast can be used at the same time.

#### 5.4.1 Scenes in Master

After "Enable" is selected in "Group N scenes" at the bottom of group setting page ("Group 1 scenes" is taken as an example), click "G1: scenes in master" label on the left, as shown in Figure 5-4.

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	-G1:status	Group 1 Scene 2 brightness value	Inactive	-
	-G1:scenes in master	Group 1 Scene 3 Colour Control Type	O None Colour Temperature	
	-G1:scenes in ballast	Group 1 Scene 3 brightness value	Inactive	-
	>Group 2	Group 1 Scene 4 Colour Control Type	O None O Colour Temperature	
	-G2:status	Group 1 Scene 4 brightness value	Inactive	•
		Group 1 Scene 5 Colour Control Type	O None Colour Temperature	
		Group 1 Scene 5 brightness value	Inactive	•
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Figure 5-4 Scene in master

- 1. Scenes source: Scene in master, which indicates scenes in master are being configured.
- 2. Dimming time for group scenes: to set the fade time of scene dimming. If "Same as absolute dimming time" is selected, the fade time of scene dimming is the same as that of group absolute dimming.
- 3. Group N scene M colour control type: to select the control type of light brightness in this scene.
  - 1) If "None" is selected, color temperature control function will be disabled.
  - 2) If "Colour Temperature" is selected, color temperature control function will be enabled.



- 4. Group N scene M brightness value: to set the light brightness in this scene, including "Inactive" and "0-100%".
  - Group N scene M colour temperature: to set the color temperature value of light in this scene, after "Colour temperature" is selected in "Group N scene M colour control type". The color temperature value ranges from 1000-10000K, the default value is 3000K. Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Group N scene M brightness value", color temperature settings do not work.

#### 5.4.2 Scenes in Ballast

After "Enable" is selected in "Group N scenes" at the bottom of group setting page ("Group 1 scenes" is taken as an example), click "G1: scenes in ballast" label, as shown in Figure 5-5.

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1.1.1 M/DALI.1	General	Group 1 Scenes		<ul><li>Ø</li></ul>
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	>Group 1	Scene 3 Enable	🔘 No 🔵 Yes	
	-G1:status	Scene 4 Enable	O No Ves	
		Scene 5 Enable	No Ves	
	-G1:scenes in master	Scene 6 Enable	No Yes	
	-G1:scenes in ballast	Scene 7 Enable	O No Ves	
	>Group 2	Scene 8 Enable	O No 🔿 Yes	
	-G2:status	Scene 9 Enable	🔘 No 🔵 Yes	
		Scene 10 Enable	🔘 No 🗌 Yes	
		Scene 11 Enable	🔘 No 🗌 Yes	
		Scene 12 Enable	🔘 No 🗌 Yes	
		Scene 13 Enable	🔘 No 🗌 Yes	<b>v</b>
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Figure 5-5 Scenes in ballast



- 1. Scenes source: Scene in ballast, which indicates that scenes in ballast are being configured.
- 2. Dimming time for group scenes: If "Same as absolute dimming time" is selected, the fade time of scene dimming is the same as that of group absolute dimming.
- 3. Scene M enable: to call the scene saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after "Enable" is selected.



## 6 Channel

### 6.1 Channel Selection

After "Channel" is enabled in function selection page, click "Channels" label on the left, as shown in Figure 6-1.

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	Channels	Channel 49 &Channel 64	Disable Enable	
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Figure 6-1 Select channel

- 1. Channel N & Channel N+15 (N=1, 17, 33, 49): to enable/disable the selected channel.
- 2. Channel scenes: to enable scene. If "Disable" is selected, all channel scene function configured singly will not work.



Channel scenes recovery: after "Enable" is selected in "Channel scenes", scene restoration function can be enabled. If "Disable" is selected, all channel scene restoration function configured singly will not work.

### 6.2 Channel Setting

After channels are enabled in channel selection page ("Channel 1" is taken as an example), click ">Channel 1" label in parameter list, as shown in Figure 6-1.

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1 1 1 1 1 / () / () 1 1	Fault	Address of device	AO	•	4
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		Brightness value when switch ON	100%(255)	•	
	Channels	Colour temperature value when switch	3000	* *	
	>Channel 1		Last Colour Temperature		
	-Ch1:status	Colour control behavior when switch C	ON O Colour Temperature Above		
	>Channel 2	Permit be turned on via relative dimm telegram	ing 🔵 No 🔘 Yes		
	-Ch2:status	Switching ON(1bit):time for reach swit on	2.0s	*	
	-Ch2:scenes	Switching OFF(1bit):time for reach swit off	tch 2.0s	•	
	>Channel 3	Relative dimming(4bits):time for 0100	0% 5.6s	•	
	-Ch3:status	Absolute dimming(8bits):time for reac set brightness value	h 2.0s	•	
		Mode			
	-Ch3:scenes	Operation mode	O Disable O Enable		
	>Channel 4	-Energy saving mode	No Ves		J
	Group Objects Parame	•			v

Figure 6-1 Channel setting

- 1. Channel N (N=1, ..., 64) Name: to change channel name.
- 2. Address of device: to select corresponding device address.



- 3. Colour control type: to enable color temperature control function. If light brightness is 0 when channel is enabled, color temperature settings do not work.
  - > If "None" is selected, color temperature control function will be disabled.
  - > If "Colour Temperature" is selected, color temperature control function will be enabled.
    - Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in "Colour control behavior when switch ON".
    - 2) Colour control behavior when switch ON: to set color temperature operation when channel is enabled.
      - ① "Last Colour Temperature" is selected: to take the last recorded value when channel is enabled.
      - ② Colour Temperature Above: to take the value set in "Colour temperature value when switch ON".
- 4. Brightness value when switch on: to set the initial brightness of light.
- 5. Permit be turned on via relative dimming telegram:
  - > If "Yes" is selected, lights can be turned on via relative dimming telegram.
  - > If "No" is selected, lights can't be turned on via by relative dimming telegram.
- 6. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
- 7. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out, the default value is 2s.
- 8. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s.
- 9. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
- 10. Operation mode: after "Enable" is selected, working mode can be selected below, including energy saving mode and night mode.
  - 1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after "Yes" is selected.
    - > Value in energy saving mode: to set the light brightness in energy saving mode.



- Night mode: to enable/disable night mode. The following items can be set after "Yes" is selected.
  - ① Delay in night mode: to set the delay time of entering night mode.
  - ② Value in night mode: to set the light brightness in night mode.
- 11. Channel N Scenes: to enable controlling scene by channel.
- 12. Channel N Scenes For Recovery: to select the scenes called after voltage recovery.
  - > If "Disable" is selected, scene calling function will be disabled after voltage recovery.
  - > If "Last Scene" is selected, the last recorded scene before power down can be called.
  - ▶ If "Scene No.N (N=1, ..., 16)", scene 1-16 can be selected to call.

### 6.3 Status Feedback

After channels are enabled in channel selection page ("Channel 1" is taken as an example), click ">Ch1: status" label in parameter list, as shown in Figure 6-2.

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	Channels	Response of colour temperature status (2byte)	O Disable O Enable	
	Channels	-Send status	Always response	•
	>Channel 1	Lamp fault status	O Disable O Enable	
	-Ch1:status	-Send	After detected(alarm,no alarm)	•
	>Channel 2	-Send value	<ul> <li>○ '1'-Alarm,'0'-No alarm</li> <li>○ '0'-Alarm,'1'-No alarm</li> </ul>	
	-Ch2:status	Ballast fault status	O Disable O Enable	
	-Ch2:scenes	-Send	After detected(alarm,no alarm)	•
	>Channel 3	-Send value	'1'-Alarm,'0'-No alarm '0'-Alarm,'1'-No alarm	
	-Ch3:status	Status recovery:		
	-Ch3:scenes	Brightness recovery	Disable	-
	>Channel 4	Colour Temperature recovery	Switch ON colour temperature	•
	v channel 4	Colour Temperature for recovery	3000	*
	Group Objects Parameter			
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Figure 6-2 Status feedback

- Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object). The following items can be set after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected:
      - a) After any operation changing channel switch status (including channel switch and channel absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level".
      - b) When lights are turned on via channel relative dimming, the status will be compulsorily sent to the bus once.
      - c) Channel switch status can also be changed by any operation changing light



brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in "Adjustment delay time for query actual level". DALI Gateway calculates channel brightness according to the settings in "Brightness status value". If this setting is not enabled, DALI Gateway will take the maximum brightness as channel brightness.

- d) The value sent to the bus depends on the configuration of "Switch status value".
- ② If "After changed" is selected, the status will be sent to the bus when channel switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.
- ③ If "After requested" is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.
- 2) Switch status value: to select data feedback type.
  - If "'1'-ON, '0'-OFF" is selected, "1" will be sent when lights are turned on, while "0" will be sent when lights are turned off.
  - If "'0'-ON, '1'-OFF" is selected, "0" will be sent when lights are turned on, while "1" will be sent when lights are turned off.
- 2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after "Enable" is selected:
  - 1) Send status: to select feedback type.
    - ① If "Always response" is selected, light brightness will be sent to the bus after any operation.
    - ② If "After changed" is selected, light brightness will be sent to the bus after the status changes.
    - ③ If "After requested" is selected, light brightness will be sent to the bus after requests are sent.
  - 2) Brightness status value: to select data feedback type.
    - ① If "Average brightness of lamps" is selected, the average brightness of lights will be sent to the bus.
    - ② If "Highest brightness of lamps" is selected, the maximum brightness of lights will be sent to the bus.
    - ③ If "Lowest brightness of lamps" is selected, the minimum brightness of lights will be sent to the bus.



**Note:** the feedback rule of "Response of brightness status (1 byte)" is the same as that of "Response of switch status (1 bit)". The difference is that, in "Response of brightness status (1 byte)", when lights are turned on via channel relative dimming, the status will not be compulsorily sent to the bus once.

- 3. Response of colour temperature status: to enable color temperature status feedback function.
  - Send status: to select color temperature feedback type after "Enable" is selected in "Response of colour temperature status".
    - ① If "Always response" is selected, the status will be sent to the bus after any operation.
    - ② If "After changed" is selected, the status will be sent to the bus after the status changes.
    - ③ If "After requested" is selected, the status will be sent to the bus after requests are sent.

**Note:** every time color temperature control function is enabled, the status will be at once sent to the bus. So far, feedback telegram represents color temperature value. For example, 3000K is represented as 014D (333 Mirek). The formula is "Mirek=1000000/T" (T represents color temperature value).

- 4. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after "Enable" is selected:
  - 1) Send: to select light status feedback type.
    - ① If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
    - ② If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).
    - ③ If "After detected & changed" is selected, after detection, telegram will be sent after fault status changes.
  - 2) Send value: to select feedback value type.
    - 1 If "1-Alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
    - ② If "0-Alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 5. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after "Enable" is selected:



- 1) Send: to select ballast status feedback type.
  - ① If "After detected (alarm, no alarm)" is selected, feedback telegram will be sent after detection.
  - ② If "After detected (only alarm)" is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).
  - ③ If "After detected & changed" is selected, after detection, feedback telegram will be sent after fault status changes.
- 2) Send value: to select telegram value feedback type.
  - If "1-alarm, 0-No alarm" is selected, "1" will be sent when there is an alarm (fault), while "0" will be sent when there is no alarm (no fault).
  - ② If "0-alarm, 1-No alarm" is selected, "0" will be sent when there is an alarm (fault), while "1" will be sent when there is no alarm (no fault).
- 6. Brightness recovery: to set the light brightness after voltage recovery.
  - If "Disable" is selected, light brightness restoration function will be disabled after voltage recovery.
  - > If "Last brightness" is selected, the light brightness before power down will be restored.
  - If "Switch ON brightness" is selected, the initial brightness of light when channel is enabled will be restored.
  - ▶ If "0-100%" is selected, light brightness can be restored to 0-100%.
- 7. Colour temperature recovery: this option appears after "Colour Temperature" is selected in "Colour control type".
  - > If "Disable" is selected, color temperature restoration function will be disabled.
  - If "Last Colour Temperature" is selected, the color temperature value before power down will be restored.
  - If "Switch ON colour temperature" is selected, the color temperature value is the value when channel is enabled. Please refer to settings in "Colour temperature value when switch ON" and "Colour control behavior when switch ON" of channel general setting.
  - If "Colour Temperature below" is selected, color temperature value can be selected, which is set in the 8th point "Colour temperature for recovery" below.
- 8. Colour temperature for recovery: this parameter works after "Colour temperature below" is selected in the above 7th point "Colour temperature recovery". Color temperature can be set from 1000 to 10000K. The default value is 3000K.



### 6.4 Scene Setting

After "Channel N Scenes" is enabled in channel setting page ("Channel 1 Scenes" is taken as an example), click "-Ch1: scenes" label in the parameter list on the left, as shown in Figure 6-3.

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	General	Channel 1 Scenes				
1.1.1 M/DALI.1	Fault	Scenes source	◎ Scene in master ○ Scene in ballast	£		
ALL.		Dimming time for channel scenes	2.0s	<b>•</b>		
-	Functions	Channel 1 Scene 1 Colour Control Type	None O Colour Temperature			
	Channels	Channel 1 Scene 1 brightness value	Inactive	¥		
	>Channel 1	Channel 1 Scene 1 colour temperature	3000	* *		
	-Ch1:status	Channel 1 Scene 2 Colour Control Type	None O Colour Temperature			
	Chlanner	Channel 1 Scene 2 brightness value	Inactive	-		
	-Ch1:scenes	Channel 1 Scene 2 colour temperature	3000	*		
	>Channel 2	Channel 1 Scene 3 Colour Control Type	None Colour Temperature			
	-Ch2:status	Channel 1 Scene 3 brightness value	Inactive	•		
	-Ch2:scenes	Channel 1 Scene 4 Colour Control Type	None Colour Temperature			
	>Channel 3	Channel 1 Scene 4 brightness value	Inactive	•		
		Channel 1 Scene 5 Colour Control Type	None Ocolour Temperature			
	-Ch3:status	Channel 1 Scene 5 brightness value	Inactive	•		
	-Ch3:scenes	Channel 1 Scene 6 Colour Control Type	None     Colour Temperature			
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Figure 6-3 Scene setting

The setting items are explained below:

1. Scenes source: to select "Scene in master" or "Scene in ballast" (only one kind of scene is available at one time).

Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway after the configuration of ETS.

Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.



- 2. Dimming time for channel scenes: to set the fade time of scene dimming. If "Same as absolute dimming time" is selected, the fade time of scene dimming is the same as that of channel absolute dimming.
- > If "Scene in master" is selected in "Scenes source", the following items can be set:
  - 1) Channel N scene M colour control type: to select the control type of light brightness in this scene.
    - ① If "None" is selected, color temperature control function will be disabled.
    - ② If "Colour Temperature" is selected, color temperature control function will be enabled.
  - 2) Channel N scene M brightness value: to set the light brightness in this scene, including "Inactive" and "0-100%".
  - 3) Channel N scene M colour temperature: to set the color temperature value of light in this scene, after "Colour temperature" is selected in "Colour control type". Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Channel N scene M brightness value", color temperature settings do not work.
- > If "Scene in ballast" is selected in "Scenes source", the following items can be set:

Scene M enable: to call the scenes saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after "Enable" is selected.



## 7 Scenes

### 7.1 Scene Selection

After "Scene" is enabled in function selection page, click "Scenes" label on the left, as shown in Figure 7-1.

**Note:** this function is the combination of scenes, which can control broadcast, 16 groups and 64 channels at the same time.

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+		nload 🛛 🔹 🕜 Help 🤌 Highlight Changes	Default Parameters	
Ė	1.1.1 M/DALI.1 > Scenes			
1.1.1	General	Scene 1 & Scene 2	🔵 Disable 🔘 Enable	Ŏ
1.1.1 M/DALI.1	Fault	Scene 3 & Scene 4	Disable Enable	**
\UI.1	Functions	Scene 5 & Scene 6	Disable Enable	
	Scenes	Scene 7 & Scene 8	Disable Enable	
	>Scene 1	Scene 9 & Scene 10	Disable Enable	
	-Scene 1 broadcast	Scene 11 & Scene 12	Disable Enable	
		Scene 13 & Scene 14	Disable Enable	
	-Scene 1 group	Scene 15 & Scene 16 Recovery:	Disable Enable	
	-Scene 1 channel	Reaction after bus voltage recovery(KNX	Scene NO.01	Ţ
	>Scene 2	or DALI)	Secre No.01	
	-Scene 2 broadcast			
	-Scene 2 group			
	-Scene 2 channel			
	Group Objects Parameter			
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Figure 7-1 Select scene

- 1. Scene N & N+1 (N=1, ..., 15): to enable/disable the selected scene.
- 2. Reaction after bus voltage recovery (KNX or DALI): to set the scene called after voltage recovery.



- > If "Disable" is selected, scene restoration function will be disabled.
- If "Last Scene" is selected, the last recorded scene before power down can be restored.
- ▶ If "Scene No.N (N=1, ..., 16)", scene 1-16 can be selected to restore.

#### 7.2 Enable Scenes

After scenes are enabled in scene selection page ("Scene 1" is taken as an example), click "Scene 1" label, as shown in Figure 7-2.

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> =	1.1.1 M/DALI.1 > >Scene 1				
1.1.1 M/DALI.1	General	Scene source	Scene in master Scene in ball	ast	
M/D	Fault	Dimming time for scene	2.0s	•	
ALI.1	Functions	Reaction after bus voltage recovery(KNX or DALI)	O Disable  Enable		
	Scenes				
	>Scene 1				
	-Scene 1 broadcast				
	-Scene 1 group				
	-Scene 1 channel				
	>Scene 2				
	-Scene 2 broadcast				
	-Scene 2 group				
	-Scene 2 channel				
	Group Objects Parameter				
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Figure 7-2 Enable scene

The setting items are explained below:

1. Scenes source: to select "Scene in master" or "Scene in ballast" (only one kind of scene are available at one time).



Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway after the configuration of ETS software.

Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.

- 2. Dimming time for scene: to set the fade time of scene dimming. If "Same as absolute dimming time" is selected, the fade time of scene dimming is the same as that of scene absolute dimming.
- 3. Reaction after bus voltage recovery (KNX or DALI): choose whether to restore this scene after voltage recovery.

### 7.3 Scene Control Broadcast

After scenes are enabled in scene selection page ("Scene 1" is taken as an example), click "Scene 1 broadcast" label on the left, as shown in Figure 7-3.

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+	🛚 Add Channels   👻 🗙 Delete  🛨 Dow	vnload 🛛 🔹 🕜 Help 🥒 Highlight Changes	Default Parameters		
>	1.1.1 M/DALI.1 > -Scene 1 broad	cast			
1.1.1 M/DALI.1	General	Broadcast colour control type	O None O Colour Temperature		0
M/DAI	Fault	Broadcast brightness value	Inactive	•	
11	Functions				
	Scenes				
	>Scene 1				
	-Scene 1 broadcast				
	-Scene 1 group				
	-Scene 1 channel				
	>Scene 2				
	-Scene 2 broadcast				
	-Scene 2 group				
	-Scene 2 channel				
	Group Objects Parameter				
	HDL USB Interface 🔺 1.1 新建支线	1.1.1 M/DALI.1		Last used workspace	

#### Figure 7-3 Scene control broadcast



The setting items are explained below:

- If "Scene in master" is selected in the first point "Scenes source" of scene general setting page:
- 1. Broadcast colour control type: to select the control type of light brightness in broadcast.

If "None" is selected, color temperature control function will be disabled.

If "Colour Temperature" is selected, color temperature control function will be enabled.

2. Broadcast brightness value: to set the light brightness in broadcast, including "Inactive" and "0-100%".

Broadcast colour temperature: to set the color temperature value of light in broadcast, after "Colour temperature" is selected in "Broadcast colour control type". Color temperature value ranges from 1000 to 10000K, the default value is 3000K. Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Broadcast brightness value", color temperature settings do not work.

If "Scene in ballast" is selected in the first point "Scenes source" of scene general setting page, the following items can be set:

Broadcast enable: to enable/disable calling scenes in ballasts.

### 7.4 Scene Control Group

Scenes are enabled in scene selection page ("Scene 1" is taken as an example), click "Scene 1 group" label, as shown in Figure 7-4.

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÷	• Add Channels   🔹 🗙 Delete   🛨 Do	wnload 🛛 🔹 🕜 Help 🤌 Highlight Changes	Default Parameters				
>	1.1.1 M/DALI.1 > -Scene 1 grou	p					
1.1.1 M/DALI.1	General	Group 1 colour control type	O None Colour Temperature				
MD	Fault	Group 1 brightness value	Inactive	· · ·			
ALI.1	Functions	Group 2 colour control type	None O Colour Temperature				
	Scenes	Group 2 brightness value	Inactive	•			
	scenes	Group 2 colour temperature	3000	÷			
	>Scene 1	Group 3 colour control type	O None Colour Temperature				
	-Scene 1 broadcast	Group 3 brightness value	Inactive	-			
	-Scene 1 group	Group 4 colour control type	None     Colour Temperature				
	-Scene 1 channel	Group 4 brightness value	Inactive	-			
		Group 5 colour control type	O None Colour Temperature				
	>Scene 2	Group 5 brightness value	Inactive	-			
	-Scene 2 broadcast	Group 6 colour control type	None Oclour Temperature				
	-Scene 2 group	Group 6 brightness value	Inactive	•			
	-Scene 2 channel	Group 7 colour control type	None Colour Temperature				
		Group 7 brightness value	Inactive	•			
		Group 8 colour control type	O None O Colour Temperature	J.			
	Group Objects Parameter						
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Figure 7-4 Scene control group

The setting items are explained below:

- If "Scene in master" is selected in the first point "Scenes source" of scene general setting page:
- 1. Group N colour control type: to select the control type of light brightness in this group.

If "None" is selected, color temperature control function will be disabled.

If "Colour Temperature" is selected, color temperature control function will be enabled.

2. Group N brightness value: to set the light brightness in this group, including "Inactive" and "0-100%".

3. Group N colour temperature: to set the color temperature value of light in this group, after "Colour temperature" is selected in "Group N colour control type". Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Group N brightness value", color temperature settings do not work.



If "Scene in ballast" is selected in the first point "Scenes source" of scene general setting page, the following items can be set:

Group enable: to enable/disable calling scenes in ballast.

### 7.5 Scene Control Channel

After scenes are enabled in scene selection page ("Scene 1" is taken as an example), click "Scene 1 channel" label, as shown in Figure 7-5.

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		wnload   🔻 🕜 Help 🥒 Highlight Changes	Default Parameters		
	.1 M/DALI.1 > -Scene 1 chanr				
]	.1 M/DALI.1 > -Scene 1 chanr				
	General	Channel 1 colour control type	None O Colour Temperature		î
	Fault	Channel 1 brightness value	Inactive	•	
	Functions	Channel 1 colour temperature	3000	*	
		Channel 2 colour control type	O None O Colour Temperature		
	Scenes	Channel 2 brightness value	Inactive	•	
	>Scene 1	Channel 3 colour control type	None Colour Temperature		
	-Scene 1 broadcast	Channel 3 brightness value	Inactive	•	
	-Scene 1 group	Channel 4 colour control type	O None O Colour Temperature		
-		Channel 4 brightness value	Inactive	•	
1	-Scene 1 channel	Channel 5 colour control type	O None O Colour Temperature		
	>Scene 2	Channel 5 brightness value	Inactive	•	
	-Scene 2 broadcast	Channel 6 colour control type	None Colour Temperature		
	-Scene 2 group	Channel 6 brightness value	Inactive	•	
		Channel 7 colour control type	None O Colour Temperature		
	-Scene 2 channel	Channel 7 brightness value	Inactive	•	
		Channel 7 colour temperature	3000	÷	

Figure 7-5 Scene control channel

The setting items are explained below:

If "Scene in master" is selected in the first point "Scenes source" of scene general setting page:



1. Channel N colour control type: to select the control type of light brightness in this channel.

If "None" is selected, color temperature control function will be disabled.

If "Colour Temperature" is selected, color temperature control function will be enabled.

2. Channel N brightness value: to set the light brightness in this channel, including "Inactive" and "0-100%".

3. Channel N colour temperature: to set the color temperature value of light in this channel, after "Colour temperature" is selected in "Channel N colour control type". Color temperature settings only work for the ballasts which support color temperature regulation. If "Inactive" or "0%" is selected in "Channel N brightness value", color temperature settings do not work.

If "Scene in ballast" is selected in the first point "Scenes source" of scene general setting page, the following items can be set:

Channel N enable: to enable/disable calling the scene saved in ballast.

## 8 Additional Function

After "Additional functions" is enabled in function selection page, click "Additional functions" label on the left, as shown in Figure 8-1.

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> 1	1.1.1 M/DALI.1 > Additional fund	tions				
1.1.1	General	Additional function 1	Staircase light	- O		
L M/I	Fault	Additional function 2	Disable	<u>م</u>		
1.1.1 M/DALI.1		Additional function 3	Staircase light Sequence	~		
	Functions	Additional function 4	Emergency light			
	Additional functions	Additional function 5	Sequence	•		
	Addi1:Stair. light	Additional function 6	Disable	-		
	Addi2:Stair. light	Additional function 7	Disable	<b>•</b>		
	Addi3:Emer. light	Additional function 8	Disable	*		
	Addis.emei. light	Additional function 9	Disable	-		
	Addi4:Emer. light	Additional function 10	Disable	-		
	Addi5:Sequence	Additional function 11	Disable	-		
		Additional function 12	Disable	-		
		Additional function 13	Disable	•		
		Additional function 14	Disable	•		
		Additional function 15	Disable	•		
		Additional function 16	Disable	•		
	Group Objects Parameter					
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Figure 8-1 Select additional function

The setting items are explained below:

Additional function N (N=1, ..., 16): to select additional function.

- 1. Staircase light
- 2. Sequence
- 3. Emergency light



### 8.1 Staircase Light Setting

After "Staircase light" is selected in the additional function option of additional function page ("Additional function 1" is taken as an example), click "Addi 1: Stair. Light" label on the left, as shown in Figure 8-2.

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> 亡	1.1.1 M/DALI.1 > Addi1:Stair. ligh	nt			
1.1.1	General	Staircase light operation	Start with '1',Stop with '0'	-	Ŏ
1.1.1 M/DALI.1	Fault	Select group or channel	Group 1	-	¥.
LI:1	Functions	Duration time for brightness	30 s	•	
	Additional functions	Staircase light ararm to bus	🔵 No 🔘 Yes		
	Additional functions	Staircase light warning	🔵 Disable 🔘 Enable		
	Addi1:Stair. light	-Warning before switch OFF	10 s	•	
	Addi2:Stair. light	-Warning hold time	5 s	•	
	Addi3:Emer. light	-Warning brightness value	0%(0)	-	
		Group and Channel basic function	○ Not allowed to use ◎ Priority		
	Addi4:Emer. light	-Note:If 'Priority' selected,staircase light will restart when	Brightness value = '0'		
	Addi5:Sequence	will restart when			
	Group Objects / Parameter /				
	HDL USB Interface ▲ 1.1 新建支线	1.1.1 M/DALI.1		Last used workspace	

Figure 8-2 Staircase light setting

- 1. Staircase light operation: to select staircase control type.
  - If "Start with '1', Stop with '0'" is selected, staircase light will be turned on after "1" is written to objects, and staircase light will be turned off after "0" is written to objects.
  - If "Start with '0', Stop with '1'" is selected, staircase light will be turned on after "0" is written to objects, and staircase light will be turned off after "1" is written to objects.
  - > If "Start with "1/0", Can't stop" is selected, staircase light will be turned on after "1" or



"0" is written to objects. If this option is selected, staircase light will not automatically go out until the end of duration.

- 2. Select group or channel: to select group/channel for staircase light. The default group depends on the selected additional function number.
- 3. Duration time for brightness: to set the duration of staircase light. The default value is 30s.
- 4. Staircase light alarm to bus: to enable sending alarms to the bus when staircase light is turned on/off.
- 5. Staircase light warning: to enable sending warning before staircase light goes out. The following items can be set after "Yes" is selected.
  - Warn before switch OFF: to set time interval between warning signal is sent and staircase light goes out. The default value is 10s. For example, if "1 minute" is set, warning will be sent 1 minutes before staircase light goes out. Time interval should be within staircase light duration.
  - 2) Warning hold time: to set the duration of warning. The default value is 5s.
  - 3) Warning brightness value: to set staircase light brightness while warning is working.
- 6. Group and Channel basic function: to set the priority of group/channel function, including disabling group/channel function ("Not allowed to use") and prior group/channel function ("Priority").

**Note:** if "Priority" is selected, staircase light will be turned on again when group/channel brightness is 0. Group brightness is calculated according to the settings in "Brightness status value" (the maximum/average/minimum brightness of lights).

### 8.2 Sequence Setting

After "Sequence" is selected in the additional function option of additional function page ("Additional function 1" is taken as an example), click "Addi 1: Sequence" label, as shown in Figure 8-3.

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> 1	1.1.1 M/DALI.1 > Addi1:Sequence	2		
1.1.1 M/DALI.1	General	Sequence operation	Start with '1',Stop with '0'	
M/D	Fault	Sequence running time	10 min	- ×
ALI.1	Functions	Call scene after running time out	Invalid	<b>•</b>
		Call scene after stop	Invalid	-
	Additional functions	Total 16 steps:		
	Addi1:Sequence	>>Step <1>	🔵 Disable 🔘 Enable	
	Addi2:Stair. light	-Scene	Scene NO.01	-
		-Step time	10 s	<b>•</b>
	Addi3:Emer. light	>>Step <2>	🔵 Disable 🔘 Enable	
	Addi4:Emer. light	-Scene	Scene NO.02	Ŧ
	Addi5:Sequence	-Step time	10 s	<b>•</b>
		>>Step <3>	O Disable C Enable	
		>>Step <4>	O Disable C Enable	
		>>Step <5>	O Disable C Enable	
		>>Step <6>	O Disable C Enable	
		>>Step <7>	O Disable C Enable	U.
	Group Objects Parameter			
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Figure 8-3 Sequence setting

- 1. Sequence operation: to select sequence control type.
  - If "Start with '1', Stop with '0'" is selected, sequence will be booted after "1" is written to objects, and sequence will be closed after "0" is written to objects.
  - If "Start with '0', Stop with '1'" is selected, sequence will be booted after "0" is written to objects, and sequence will be closed after "1" is written to objects.
  - If "Start with "1/0", Can't stop" is selected, sequence will be booted after "1" or "0" is written to objects. If this option is selected, sequence will not automatically stop running until the end of duration.
- 2. Sequence running time: to set sequence running time. The default value is 10 minutes.
- 3. Call scene after running time out: to set the scene called after the end of sequence



duration (all scenes called in sequence are combined scenes).

- 4. Call scene after stop: to set the scene called after sequence stops running.
- 5. Step <N> (N=1, ..., 16): to set the step of sequence. The following items can be set after "Enable" is selected:
  - 1) Scene: to select the scene to output.
  - 2) Step time: to set the running time of every step. The default value is 10s.

### 8.3 Emergency Light Setting

After "Emergency light" is selected in the additional function option of additional function page ("Additional function 1" is taken as an example), click "Addi 1: Emer. Light" label on the left, as shown in Figure 8-1.

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+	Add Channels 💌 🗙 Delete 🛨 Dow	vnload 🛛 🔹 😮 Help 🥒 Highlight Changes	Default Parameters		
> 1	1.1.1 M/DALI.1 > Addi1:Emer. lig	ht			
1.1.1	General	Trigger way selection	🔵 Local light 🔘 External telegram		
1.1.1 M/DAU.1	Fault	Emergency light			**
ALI.1	Functions	Emergency light control	Group 1	•	
	- and only	Emergency light ON value	30%	•	
	Additional functions	Trigger condition	O Telegram value '0' trigger ON,else OFF		
	Addi1:Emer. light	Emergency light duration time(0-no	<ul> <li>Telegram value '1' trigger ON,else OFF</li> </ul>		
	Addi2:Stair. light	limited,165535min)	0	* *	
	Addi3:Emer. light				
	Addi4:Emer. light				
	Addi5:Sequence				
	Group Objects Parameter				
ł	HDL USB Interface 🔺 1.1 新建支线	1.1.1 M/DALI.1	Last used	d workspace	

#### Figure 8-1 Emergency light setting



The setting items are explained below:

Trigger way selection: to select trigger way. Local light or external telegram can be selected to trigger emergency light.

- > If "Local light" is selected in "Trigger way selection":
- 1. Group/Channel checked for 'emergency light control': to select group/channel as trigger source. DALI Gateway will start trigger operation according to the settings in the fourth point "Trigger condition". When the light for group/channel is turned on/off, emergency light will be turned on. For example, if "Group 1" is selected, emergency light will be turned on when the light for Group 1 is turned on/off.
- 2. Emergency light control: to select group/channel for emergency light. The default group is Group 2.
- 3. Emergency light ON value: to select the initial brightness of emergency light. The default value is 30%.
- 4. Trigger condition: to select trigger type.
  - If "Brightness is '0' trigger ON, else OFF" is selected, emergency light will be turned on when the brightness of group/channel selected in "Group/Channel checked for 'emergency light control" is 0. While emergency light will be turned off under other circumstances.
  - 2) If "Brightness is '>0' trigger ON, else OFF" is selected, emergency light will be turned on when the brightness of group/channel selected in "Group/Channel checked for 'emergency light control'" is above 0. While emergency light will be turned off under other circumstances.

Group brightness is calculated according to the settings in "Brightness status value" (the maximum/average/minimum brightness of lights).

- 5. Emergency light duration time: to set the duration emergency light, which ranges from 1 to 65535 minutes. If "0" is set, emergency light has unlimited duration.
- > If "External telegram" is selected in "Trigger way selection":
- 1. Emergency light control: to select group/channel for emergency light. The default group is Group 2.
- 2. Emergency light ON value: to select the initial brightness of emergency light. The default value is 30%.
- 3. Trigger condition: to select trigger type.
  - 1) If "Telegram value '0' trigger ON, else OFF" is selected, emergency light will be turned on after receiving telegram "0" and turned off after receiving other telegrams.



- 2) If "Telegram value '1' trigger ON, else OFF" is selected, emergency light will be turned on after receiving telegram "1" and turned off after receiving other telegrams.
- 4. Emergency light duration time: to set the duration of emergency light, which ranges from 1 to 65535 minutes. If "0" is set, emergency light has unlimited duration.



## 9 Download Data

#### 9.1 Interface Setting

If users need to download data to DALI Gateway, KNX interface is necessary.

After connecting KNX interface to a computer via USB, click "Bus" tab in ETS' main page, "HDL USB Interface" will show up in "Discovered Interface". Double click to add and the interface will show up in "Current Interface", as shown in Figure 9-1.

ETS5 <sup>TM</sup>		
Overview Bus	Catalogs Settings	KNX
Overview     Bus       -     Connections       Interfaces     Options       -     Monitor       Group Monitor     Bus Monitor       -     Diagnostics       Unload Device     Device Info       -     Individual Addresses       Programming Mo     Individual Addres       Line Scan     Line Scan	Catalogs Settings Current Interface HDL USB Interface (HDL) Individual Address: 0.2.255 Configured Interfaces Discovered Interfaces HDL USB Interface (HDL)	Image: Constraint of the second
		Test     Select       ETS Version ETS 5.6.4 (Build 842) ①     License Demo     Apps 0 active

Figure 9-1 Interface setting



### 9.2 Download Data

Press the programming button of DALI Gateway, and the red indicator keeps on. Right click the database to be downloaded to DALI Gateway and select "Download". The information indicates the end of the process on the right side of ETS, as shown in Figure 9-2.

O Close Proj	ect 🧹 Undo 🥖	💊 Redo 🛛 🚔 Reports 🛛 📰	Workplace 🔹 ] Catalogs	Diagnos	tics	
<b>lopology ▼</b> ■ Add Channe	s   🔹 🗙 Delete 🔹	Download   🔹 🌒 Info 🔹	• Search	<ul> <li>□ ×</li> <li>∞</li> </ul>	Properties Find and Rep	lace
Number	* Name	Object Function	Length C R W T U Data	Type Priority	Workspaces	
■之 11 ■之 12 ■之 13 ■之 14	External temperature General	Remote temperature for outdoor PM2.5	2 bytes C - W T U 2 bytes C - W T -	Low	<ul> <li>Todo Items</li> </ul>	
■‡ 13	General	CO2	2 bytes C - W T -	Low	Pending Ope	rations
∎≵ 14	General	TVOC	2 bytes C - W T -	Low	Active	History
					Download(A	All): Finished
					Download(A	All): Finished

Figure 9-2 Download data



## **10 Object Instruction**

KNX communication objects are used for receiving and sending data. The length of these objects is from 1 to 14 bits according to different function settings. Each object has a flag with communication property.

- 1. "C"-Communication, representing that communication objects are connected normally via the bus.
- 2. "R"-Read, representing that communication object value can be read via the bus.
- 3. "W"-Write, representing that communication object value can be rewritten via the bus.
- 4. "T"-Transmit, representing that communication objects have transmit function. When this object value is modified, send the message.
- 5. "U"-Update, representing that communication object value can be updated via the bus response message.

### 10.1 Objects "General"

Object "General"									
序号 名称		对象功能	长度	C R	<b>W</b> 1	τU	数据类型	优先级	
1 General		leartbeat telegram 1 bit C R - T - boolean		低					
No. Name		Function			Flag			Data Type	
1	General	Heartbeat teleg	ram		(	CR	Т	DPT1.002 1 bit	
-	This object can be activated by selecting "Send value "0" cyclically, Send value "1" cyclically or Send value "1/0" inverted cyclically" in the parameter "Heartbeat Telegram", which is used for checking if the device is								
connect	ted to the system norr	nally.							

### 10.2 Objects "Operation mode"

Objects "Operation mode"								
2	Operation mode	Energy saving mode	1 bit C -	W start/stop 低				
3	Operation mode	Night mode	1 bit C -	W start/stop 低				
No.	Name	Function	Flag	Data Type				
0.0	On exections are ada	Energy saving mode		DPT1.010				
2, 3	Operation mode C W		C VV	1 bit				
These of	These objects are used for enabling/disabling energy saving mode and night mode.							

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## 10.3 Objects "Fault"

Objects	"Fault"						
5	Fault	Manual detect all ball	1 bit C -	W start/stop 低			
6	Fault	Address of fault ballast	1 byte C R	- T - counter pu低			
7	Fault	Number of fault ballast	1 byte C R	- T - counter pu低			
8	Fault	DALI bus fault	1 bit C R	- T - alarm 低			
No.	Name	Function	Flag	Data Type			
F	Foult	Manual datast all hallasts		DPT1.010			
5	Fault	Manual detect all ballasts	CW	1 bit			
This ob	ject is used for enablir	ng/disabling manual fault detection	on function.				
e	Foult	Address of fault ballast	CRT	DPT5.010			
6	Fault	Address of fault ballast	GRI	1 byte			
This ob	ject is used for sendin	g fault ballast addresses.					
7	Fault		ODT	DPT5.010			
7	Fault	Number of fault ballast	CRT	1 byte			
This ob	ject is used for sendin	g the number of fault ballasts.					
0	Fault		CDT	DPT1.005			
8	Fault	DALI bus fault	CRT	1 bit			
This ob	This object is used for enabling/disabling DALI bus fault detection function.						

## 10.4 Objects "Broadcast"

Objects	"Broadcast"								
11	Broadcast	Switch(1bit)	1 bit C	-	W - U switch 低			低	
12	Broadcast	Relative dimming(4bi	4 bit C	-	W	-	U	dimming c	低
13	Broadcast	Absolute dimming(1b	1 byte C	-	W	-	U	percentag	低
14	Broadcast	Colour Temperature(	2 bytes C	-	W	-	U	absolute c	低
15	Broadcast	Status(1bit)	1 bit C	R	-	Т	-	switch	低
16	Broadcast	Status(1byte)	1 byte C	R	-	Т	-	percentag	低
17	Broadcast	Status(2bytes)	2 bytes C	R	R - T - absolute c 低			低	
18	Broadcast	Lamp fault	1 bit C	R	R - T - alarm 低			低	
19	Broadcast	Ballast fault	1 bit C R		-	Т	-	alarm	低
20	Broadcast Scene 116	Call Broadcast Scene(	1 byte C	-	W	-	-	scene cont	.低
No.	Name	Function	Flag				0	Data Type	)
44	Dreadeast		0.00/11				[	OPT1.001	
11	Broadcast	Switch (1 bit)	CWU					1 bit	
This ob	ject is used for enablir	ng/disabling broadcast control fu	nction.						
		Deletive dimming (4 bite)					Γ	OPT3.007	,
12, 13	Broadcast	Broadcast Relative dimming (4 bits)	CWU		4 bits DPT5.001				
		Absolute dimming (1 byte)							



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				1 byte					
These o	These objects are used for enabling/disabling relative/absolute dimming.								
14	Broadcast	Colour Tomporature (2 bytes)	CWU	DPT7.001					
14	DIDAUCASI	Colour Temperature (2 bytes)	0 00	2 bytes					
This obj	ect is used for enablir	ng/disabling color temperature fu	nction.						
				DPT1.001					
		Status (1 bit)		1 bit					
15-17	Dreadcast	Status (1 bit)	ОРТ	DPT5.001					
15-17	Broadcast	Broadcast Status (1 byte) Status (2 bytes)	CRT	1 byte					
				DPT7.001					
				2 bytes					
These o	bjects are used for s	electing status feedback types, i	ncluding 1-bit object	t feedback, 1-byte object					
feedbac	k and 2-byte object fe	edback.							
10 10	Draadaaat	Lamp fault	СПТ	DPT1.005					
18, 19	Broadcast	Ballast fault	CRT	1 bit					
These o	bjects are used for er	nabling/disabling light/ballast fau	It detection function.						
20	Broadcast Scene	Call Broadcast Scene	СПТ	DPT18.001					
20	1-16	(1 byte)	CRT	1 byte					
This obj	ect is used for calling	scenes via broadcast.							

## 10.5 Objects "Group"

Ob	jects "Group"				
(Ta	ke "Group 1" as an exa	mple)			
21	Group 1	Switch(1bit)	1 bit C -	W - U	switch 低
22	Group 1	Relative dimming(4bi	4 bit C -	W - U	dimming c 低
23	Group 1	Absolute dimming(1b	1 byte C -	W - U	percentag 低
24	Group 1	Colour Temperature(	2 bytes C -	W - U	absolute c 低
25	Group 1	Status(1bit)	1 bit C R	- T -	switch 低
26	Group 1	Status(1byte)	1 byte C R	- T -	percentag 低
27	Group 1	Status(2bytes)	2 bytes C R	- T -	absolute c 低
28	Group 1	Lamp fault	1 bit C R	- T -	alarm 低
29	Group 1	Ballast fault	1 bit C R	- T -	alarm 低
30	Group 1 Scene 116 In Mas	ter Call Group 1 Scene In	1 byte C -	W	scene cont低
31	Group 1 Scene 116 In Balla	ast Call Group 1 Scene In	1 byte C -	W	scene cont低
	No.	Name	Function	Flag	Data Type
	21, 32, 43, 54, 65, 76, 87, 98, 109, 120, 31, 142, 153, 164, 175, 186	Group n (n=1, 2,, 16)	Switch (1 bit)	CWI	J DPT1.001 1 bit
The	ese objects are used for	r enabling/disabling gro	oup control function.	•	
	22, 23, 33, 34,	Group n	Relative dimming (4 bits)	CWU	J DPT3.007

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			,	
44, 45, 55, 56,	(n=1, 2,, 16)	Absolute dimming (1 byte)		4 bits
66, 67, 77, 78,				DPT5.001
88, 89, 99, 100,				1 byte
110, 111, 121, 122,				
132, 133, 143,144,				
154,155, 165,166,				
176,177,187, 188				
These objects are used f	or enabling/disabling rela	ative/absolute dimming.	T	
24, 35, 46, 57,				
68, 79, 90, 101,	Group n	Colour Temperature (2 bytes)	CWU	DPT7.001
112, 123, 134, 145,	(n=1, 2,, 16)		0110	2 bytes
156, 167,178, 189				
These objects are used t	or enabling/disabling col	or temperature function.		
25-27, 36-38,				
47-49, 58-60,				DPT1.001
69-71, 80-82,		Status (1 bit)		1 bit
91-93, 102-104,	Group n		CRT	DPT5.001
113-115, 124-126,	(n=1, 2,, 16)	Status (1 byte)	URI	1 byte
135-137, 146-148,		Status (2 bytes)		DPT7.001
157-159, 168-170,				2 bytes
179-181, 190-192				
These objects are used	for selecting status feed	back types, including 1-bit object	feedback,	1-byte object
feedback and 2-byte obje	ect feedback.			
28, 29, 39, 40,				
50, 51, 61, 62,				
72, 73, 83, 84,				
94, 95, 105,106,	Group n	Lamp fault	ОПТ	DPT1.005
116, 117, 127, 128,	(n=1, 2,, 16)	Ballast fault	CRT	1 bit
138, 139, 149, 150,				
160, 161, 171, 172,				
182, 183, 193, 194				
These objects are used f	or enabling/disabling ligh	nt/ballast fault detection function.		
30, 41, 52, 63,				
74, 85, 96, 107,	Group n Scene 1-16		0.14	DPT18.001
118, 129, 140, 151,	In Master	Call Group n Scene In Master	CW	1 byte
162, 173, 184, 195,	(n=1, 2,, 16)			-
These objects are used f	or calling the scenes on	DALI master.		
31, 42, 53, 64,				
75, 86, 97, 108,	Group n Scene 1-16			DPT18.001
119, 130, 141, 152,	In Ballast	Call Group n Scene In Ballast	CW	1 byte
163, 174, 185, 196	(n=1, 2,, 16)			-
These objects are used f	or calling the scenes on	ballasts.	1	L
,	<b>U</b>			

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## 10.6 Objects "Channel"

197, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Channel n (n=1, 2,, 64)       Switch (1 bit)       C W U       DPT1.001         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 488, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, (n=1, 2,, 64)       Relative dimming (4 bits)       DPT3.007         78, 479, 488, 489, 498, 499, 508, 509, 638, 639, 648, 649, 658, 669, 669, 678, 679, 688, 689, 698, 609, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Channel n (n=1, 2,, 64)       Relative dimming (4 bits)       DPT3.007         198, 199, 208, 209, 208, 209, 208, 209, 208, 209, 208, 209, 210, 220, 230, 240, 250, 260, 270,       Channel n (C W U       DPT3.007	-	cts "Channel"					
198       Channel 1       Relative dimming(AbL.       4 bit       C - W + U       dimming c. (£         199       Channel 1       Absolute dimming(BL.       1 bit       C - W + U       parcentag. (£         200       Channel 1       Status(Bit)       1 bit       C R - T - solith       (£         201       Channel 1       Status(Bit)       1 bit       C R - T - solith       (£         202       Channel 1       Status(Bit)       1 bit       C R - T - solith       (£         205       Channel 1       Balist fault       1 bit       C R - T - solith       (£         206       Channel 1       Balist fault       1 bit       C R - T - solith       (£         206       Channel 1       Balist fault       1 bit       C R - T - solith       (£         206       Channel 1 Scaue 115       Call Channel 1 Scaue       1 bit       C W U       PT1.001         17.527, 537, 547, 557, 567, 567, 567, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 667, 577, 587, 587, 567, 567, 567, 587, 587, 567, 567, 567, 567, 567, 567, 567, 56	·		(ample)				
199         Channel 1         Absolut dimmingflis         1 byte C - W - U percentag- ff           200         Channel 1         Status(BV)         1 bit C R - T - south ff           201         Channel 1         Status(BV)         1 bit C R - T - south ff           202         Channel 1         Status(BV)         1 bit C R - T - south ff           203         Channel 1         Status(BV)         1 bit C R - T - slow ff           204         Channel 1         Lamp fault         1 bit C R - T - slow ff           205         Channel 1         Lamp fault         1 bit C R - T - slow ff           206         Channel 1 Scene 1.16         Call Channel 1 Scene 1.16         Call Channel 1 bit         C R - T - slow ff           206         Channel 1 Scene 1.16         Call Channel 1 Scene 1.16         Call Channel 1 Scene 1.16         Call Channel 1 Scene 1.16           197, 207, 217, 227, 237, 247, 257, 267, 67, 7587, 67, 7578, 7587, 667, 7587, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 317, 322, 329, 338, 339, 348, 349, 328, 329, 348, 349, 328, 329, 348, 349, 338, 348, 349, 358, 359, 368, 369, 209, 218, 219, 228, 229, 268, 269, 278, 279, 288, 289, 298, 289, 269, 269, 278, 279, 288, 289, 298, 289, 308, 309, 318, 319, 328, 329, 348, 349, 438, 439, 448, 449, 448, 458, 458, 458, 458, 459, 468, 469, (n=1, 2,, 64)         Relative dimming (4 bits)         C W U         DPT3.007             748, 479, 488, 489, 489, 459, 468,							
200         Channel 1         Colour Temperature(			2.				-
201       Channel 1       Status(Ibit)       1 bit       C       R       T       -       switch       ff         202       Channel 1       Status(Ibyte)       2 bytes C       R       T       -       spectrate_df         203       Channel 1       Status(Ibyte)       2 bytes C       R       T       -       spectrate_df         204       Channel 1       Ballast foult       1 bit       C       R       T       -       spectrate       ff         205       Channel 1       Ballast foult       C       R       T       -       spectrate       ff       df         206       Channel 1 Scene 1.16       Call Channel 1 Scene       Name       Function       Flag       Data Type         197, 207, 217, 227, 237, 247, 257, 267, 277, 277, 247, 257, 667, 567, 567, 577, 587, 567, 567, 567, 577, 587, 567, 567, 577, 587, 567, 567, 577, 587, 567, 567, 577, 587, 567, 567, 577, 587, 567, 577, 587, 567, 577, 587, 567, 577, 587, 567, 577, 578, 777, 787, 797, 787, 797, 780, 797, 780, 781, 822       Channel n       N=       C W U       DPT1.001         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 268, 269, 278, 279, 288, 289, 298, 399, 308, 309, 318, 319, 328, 329, 448, 449, 458, 459, 468, 469, 469, 469, 469, 469, 469, 469, 469			-				-
202         Channel 1         Statuc(Ibyte)         1 byte         C         R         T         - percentag(fg)           203         Channel 1         Statu(Ibyte)         2 bytes         C         R         T         - abloitet <				ic(			
203         Channel 1         Status/2bytes)         2 bytes C R - T - short         aboute C. ff           204         Channel 1         Ballast fault         1 bit         C R - T - short         eff           205         Channel 1         Ballast fault         1 bit         C R - T - short         eff           206         Channel 1 Scene 1.16         Call Channel 1 Scene         1 bit         C R - T - short         eff           206         Channel 1 Scene 1.16         Call Channel 1 Scene         1 bit         C R - T - short         eff           197, 207, 217, 227, 237, 247, 257, 267, 277, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, Channel n         Switch (1 bit)         C W U         DPT1.001           517, 527, 537, 547, 557, 567, 577, 587, (n=1, 2,, 64)         Switch (2 W U         DPT1.001         1 bit           597, 607, 617, 627, 637, 647, 657, 667, 667, 667, 667, 667, 667, 66							
205         Channel 1 Channel 1 Scene 1.16         Ballist fault         1 bit         C R + T + alarm         Iffer           206         Channel 1 Scene 1.16         Call Channel 1 Scene         1 byte         C + W + + scene contfs           197, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827         Channel n         Switch (1 bit)         C W U         DPT1.001           198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, (n=1, 2,, 64)         Relative dimming (4 bits) Absolute dimming (1 byte)         C W U         DPT3.007           478, 479, 488, 489, 498, 499, 508, 509, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 658, 659, 578, 579, 588, 589, 718, 719, 728, 729, 738, 739, 748, 749, 718, 719, 728, 729, 738, 73	203	Channel 1	Status(2bytes)		-		-
206         Channel 1 Scene 1.16         Call Channel 1 Scene         Ibyte C • W • • scene contff.           107, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827         Channel n (n=1, 2,, 64)         Switch (1 bit)         C W U         DPT1.001 1 bit           198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 356, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, (n=1, 2,, 64)         Relative dimming (4 bits) (1 byte)         DPT3.007 4 bits DPT3.007           58, 559, 568, 569, 578, 579, 588, 589, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829         Channel n         Clour Temperature C W U         DPT3.007           1byte         59, 59, 508, 509, 508, 509, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 759, 758, 759, 758, 759, 758, 759, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829         DPT5.001           1byte         500, 210, 220, 230, 240, 250, 260, 270,         Channel n         Colour Temperature C W U         DPT7.001 <td>204</td> <td>Channel 1</td> <td>Lamp fault</td> <td></td> <td>1 bit C R -</td> <td>T - aları</td> <td>n 低</td>	204	Channel 1	Lamp fault		1 bit C R -	T - aları	n 低
No.         Name         Function         Flag         Data Type           197, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827         Switch (1 bit)         C W U         DPT1.001           198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 678, 679, 688, 689, 688, 659, 668, 669, 678, 679, 688, 689, 688, 689, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829         Channel n (n=1, 2,, 64)         Relative dimming (4 bits) Absolute dimming (1 byte)         DPT3.007 4 bits DPT5.001           198, 199, 228, 229, 538, 539, 548, 549, 678, 679, 688, 689, 678, 579, 588, 589, 798, 799, 708, 789, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829         C W U         DPT3.007           198, 19, 228, 229, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829         D T 7.001							
197, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, (n=1, 2,, 64)       Switch (1 bit)       C W U       DPT1.001         597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Switch (1 bit)       C W U       DPT1.001         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 488, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, (n=1, 2,, 64)       Relative dimming (4 bits)       DPT3.007         78, 479, 488, 489, 498, 499, 508, 509, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 669, 669, 678, 679, 688, 689, 698, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       C W U       DPT3.007         1byte       These objects are used for relative/absolute dimming.       C W U       DPT3.007         1byte       System of the term of term of the term of	206	Channel 1 Scene 116	Call Channel 1 Sce	ne	1 byte C - W	scen	e cont低
277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Channel n (n=1, 2,, 64)       Switch (1 bit)       C W U       DPT1.001 1 bit         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, (r=1, 2,, 64)       Relative dimming (4 bits) These objects are used for enabling/disables, 200, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 518, 519, 528, 529, 538, 539, 548, 549, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Channel n       Colour Temperature       C W U       DPT3.001         These objects are used for relative/absolute dimming.       200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.01		No.		Name	Function	Flag	Data Type
357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Channel n (n=1, 2,, 64)       Switch (1 bit)       C W U       DPT1.001 1 bit         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, 188, 519, 528, 529, 538, 539, 548, 549, 518, 519, 528, 529, 538, 539, 548, 549, 518, 519, 528, 529, 538, 539, 548, 549, (n=1, 2,, 64)       Relative dimming (4 bits) Absolute dimming (1 byte)       DPT3.007 4 bits DPT5.001 1 byte         588, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Colour Temperature C W U       DPT7.001							
437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 557, 557, 557, 557, 557, 55	277	7, 287, 297, 307, 317,	327, 337, 347,				
517, 527, 537, 547, 557, 567, 577, 587, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       (n=1, 2,, 64)       Switch (1 bit)       C W U       1 bit         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 778, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, 158, 519, 528, 529, 538, 539, 548, 549, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Channel n       C W U       DPT3.007         These objects are used for relative/absolute dimming. 200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001	357	7, 367, 377, 387, 397,	407, 417, 427,				
517, 527, 537, 547, 557, 567, 577, 587, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       1 bit         These objects are used for enabling/disabling channel control function.       198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, (n=1, 2,, 64)       Relative dimming (4 bits)       DPT3.007         518, 519, 528, 529, 538, 539, 548, 549, 538, 559, 568, 569, 578, 579, 588, 589, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Channel n       C W U       DPT3.007         These objects are used for relative/absolute dimming. 200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001	437	7, 447, 457, 467, 477,	487, 497, 507,	Channel n			DPT1.001
597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Image: control function.         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 498, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, (n=1, 2,, 64)       Relative dimming (4 bits)       DPT3.007         58, 559, 568, 569, 578, 579, 588, 589, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Relative dimming.       DPT3.007         These objects are used for relative/absolute dimming. 200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001	517	7. 527. 537. 547. 557.	567. 577. 587.	(n=1, 2,, 64)	Switch (1 bit)	CWU	1 bit
677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827       Image: Control Function.         198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 778, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, 1518, 519, 528, 529, 538, 539, 548, 549, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Relative dimming (Libyte)       C W U       DPT3.007         These objects are used for relative/absolute dimming.       C W U       DPT3.007       DPT3.007         These objects are used for relative/absolute dimming.       C W U       DPT3.007         These objects are used for relative/absolute dimming.       C W U       DPT3.007							
757, 767, 777, 787, 797, 807, 817, 827         Image: mark triangle tr							
These objects are used for enabling/disabling channel control function.         198, 199, 208, 209, 218, 219, 228, 229,         238, 239, 248, 249, 258, 259, 268, 269,         278, 279, 288, 289, 298, 299, 308, 309,         318, 319, 328, 329, 338, 339, 348, 349,         358, 359, 368, 369, 378, 379, 388, 389,         398, 399, 408, 409, 418, 419, 428, 429,         438, 439, 448, 449, 458, 459, 468, 469,         438, 439, 448, 449, 458, 459, 468, 469,         438, 439, 448, 449, 458, 459, 468, 469,         478, 479, 488, 489, 499, 508, 509,         518, 519, 528, 529, 538, 539, 548, 549,         (n=1, 2,, 64)         Absolute dimming         (1 byte)         598, 599, 608, 609, 618, 619, 628, 629,         638, 639, 648, 649, 658, 659, 668, 669,         678, 679, 688, 689, 698, 708, 709,         718, 719, 728, 729, 738, 739, 748, 749,         758, 759, 768, 769, 778, 779, 788, 789,         798, 799, 808, 809, 818, 819, 828, 829         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001							
198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 498, 499, 508, 509, Channel n       Relative dimming       DPT3.007         478, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, 518, 519, 528, 529, 538, 539, 548, 549, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Channel n       Colour Temperature       C W U         These objects are used for relative/absolute dimming.       200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001				ng channel control	function		
238, 239, 248, 249, 258, 259, 268, 269,       Relative dimming       PT3.007         278, 279, 288, 289, 298, 299, 308, 309,       Relative dimming       PT3.007         318, 319, 328, 329, 338, 339, 348, 349,       Relative dimming       PT3.007         438, 439, 448, 449, 458, 459, 468, 469,       Relative dimming       PT3.007         478, 479, 488, 489, 498, 499, 508, 509,       Channel n       (4 bits)       PT3.007         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001         558, 559, 568, 569, 578, 579, 588, 589,       (1 byte)       1 byte       DPT5.001         598, 599, 608, 609, 618, 619, 628, 629,       638, 639, 648, 649, 658, 659, 668, 669,       1 byte       1 byte         678, 679, 688, 689, 698, 699, 708, 709,       718, 719, 728, 729, 738, 739, 748, 749,       PT5.01       1 byte         798, 799, 808, 809, 818, 819, 828, 829       These objects are used for relative/absolute dimming.       DPT7.001         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001		-	-				
278, 279, 288, 289, 298, 299, 308, 309,       318, 319, 328, 329, 338, 339, 348, 349,       318, 319, 328, 329, 338, 339, 348, 349,       358, 359, 368, 369, 378, 379, 388, 389,       398, 399, 408, 409, 418, 419, 428, 429,       Relative dimming       0							
318, 319, 328, 329, 338, 339, 348, 349,       358, 359, 368, 369, 378, 379, 388, 389,       Relative dimming       DPT3.007         438, 439, 448, 449, 458, 459, 468, 469,       Relative dimming       UPT3.007       4 bits         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001         558, 559, 568, 569, 578, 579, 588, 589,       (n=1, 2,, 64)       Absolute dimming       DPT5.001         588, 639, 648, 649, 658, 659, 668, 669,       (1 byte)       1 byte       DPT5.001         718, 719, 728, 729, 738, 739, 748, 749,       758, 759, 768, 769, 778, 779, 788, 789,       UPT5.001       1 byte         798, 799, 808, 809, 818, 819, 828, 829       These objects are used for relative/absolute dimming.       UPT7.001       C W U       DPT7.001							
358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469,       Relative dimming       DPT3.007         478, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549,       Channel n       (4 bits)       LWU       DPT5.001         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001       1 byte         588, 559, 668, 669, 668, 669,       (1 byte)       1 byte       DPT5.001       1 byte       1 byte         578, 679, 688, 689, 698, 699, 708, 709,       718, 719, 728, 729, 738, 739, 748, 749,       Kelative dimming       Kelative dimming       Kelative dimming         798, 799, 808, 809, 818, 819, 828, 829       Kelative dimming       Kelative dimming       Kelative dimming       Kelative dimming         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001							
398, 399, 408, 409, 418, 419, 428, 429,       Relative dimming       DPT3.007         438, 439, 448, 449, 458, 459, 468, 469,       (4 bits)       C W U       DPT3.007         478, 479, 488, 489, 498, 499, 508, 509,       Channel n       (4 bits)       Absolute dimming       0 DPT3.007         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       0 DPT5.001       1 byte         598, 599, 608, 609, 618, 619, 628, 629,       (1 byte)       0 DPT5.001       1 byte       0 DPT5.001         638, 639, 648, 649, 658, 659, 668, 669,       678, 679, 688, 689, 698, 699, 708, 709,       1 byte       0 DPT5.001         718, 719, 728, 729, 738, 739, 748, 749,       758, 759, 768, 769, 778, 779, 788, 789,       0 DPT5.001       0 DPT5.001         798, 799, 808, 809, 818, 819, 828, 829       DPT5.001       0 DPT5.001       0 DPT5.001         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Clour Temperature       DPT7.001							
438, 439, 448, 449, 458, 459, 468, 469,       Relative dimming       DPT3.007         478, 479, 488, 489, 498, 499, 508, 509,       Channel n       (4 bits)       C W U       4 bits         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001       1 byte         598, 599, 608, 609, 618, 619, 628, 629,       (1 byte)       1 byte       1 b							
478, 479, 488, 489, 498, 499, 508, 509,       Channel n       (4 bits)       C W U       4 bits         518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001         558, 559, 568, 569, 578, 579, 588, 589,       (1 byte)       1 byte       1 byte         598, 599, 608, 609, 618, 619, 628, 629,       (1 byte)       1 byte       1 byte         638, 639, 648, 649, 658, 659, 668, 669,       (1 byte)							
518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       C W U       DPT5.001         558, 559, 568, 569, 578, 579, 588, 589,       (1 byte)       1 byte       1 byte         598, 599, 608, 609, 618, 619, 628, 629,       (1 byte)       1 byte       1 byte         638, 639, 648, 649, 658, 659, 668, 669,       (1 byte)       1 byte       1 byte         718, 719, 728, 729, 738, 739, 748, 749,       748, 749,       1 byte       1 byte         798, 799, 808, 809, 818, 819, 828, 829       1 byte       1 byte       1 byte         These objects are used for relative/absolute dimming.       200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001	438,	439, 448, 449, 458, 4	459, 468, 469,		Relative dimming		DPT3.007
518, 519, 528, 529, 538, 539, 548, 549,       (n=1, 2,, 64)       Absolute dimming       DPT5.001         558, 559, 568, 569, 578, 579, 588, 589,       (1 byte)       1 byte         598, 599, 608, 609, 618, 619, 628, 629,       (1 byte)       1 byte         638, 639, 648, 649, 658, 659, 668, 669,       (78, 679, 688, 689, 698, 699, 708, 709,       (1 byte)       1 byte         718, 719, 728, 729, 738, 739, 748, 749,       758, 759, 768, 769, 778, 779, 788, 789,       (1 byte)       1 byte         798, 799, 808, 809, 818, 819, 828, 829       1 byte       1 byte       1 byte         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U       DPT7.001	478,	479, 488, 489, 498, 4	499, 508, 509,	Channel n	(4 bits)	CWII	4 bits
598, 599, 608, 609, 618, 619, 628, 629,         638, 639, 648, 649, 658, 659, 668, 669,         678, 679, 688, 689, 698, 699, 708, 709,         718, 719, 728, 729, 738, 739, 748, 749,         758, 759, 768, 769, 778, 779, 788, 789,         798, 799, 808, 809, 818, 819, 828, 829         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001	518,	519, 528, 529, 538,	539, 548, 549,	(n=1, 2,, 64)	Absolute dimming	0 11 0	DPT5.001
638, 639, 648, 649, 658, 659, 668, 669,         678, 679, 688, 689, 698, 699, 708, 709,         718, 719, 728, 729, 738, 739, 748, 749,         758, 759, 768, 769, 778, 779, 788, 789,         798, 799, 808, 809, 818, 819, 828, 829         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001	558,	559, 568, 569, 578,	579, 588, 589,		(1 byte)		1 byte
638, 639, 648, 649, 658, 659, 668, 669,         678, 679, 688, 689, 698, 699, 708, 709,         718, 719, 728, 729, 738, 739, 748, 749,         758, 759, 768, 769, 778, 779, 788, 789,         798, 799, 808, 809, 818, 819, 828, 829         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001	598.	599, 608, 609, 618, (	619, 628, 629,				
678, 679, 688, 689, 698, 699, 708, 709,       18, 719, 728, 729, 738, 739, 748, 749,       19, 758, 759, 768, 769, 778, 779, 788, 789,         758, 759, 768, 769, 778, 779, 788, 789,       19, 220, 230, 818, 819, 828, 829       19, 220, 230, 240, 250, 260, 270,         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001							
718, 719, 728, 729, 738, 739, 748, 749,         758, 759, 768, 769, 778, 779, 788, 789,         798, 799, 808, 809, 818, 819, 828, 829         These objects are used for relative/absolute dimming.         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       DPT7.001							
758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829       Image: Constant of the second s							
798, 799, 808, 809, 818, 819, 828, 829       Image: Comparison of the second seco							
These objects are used for relative/absolute dimming.       Colour Temperature       DPT7.001         200, 210, 220, 230, 240, 250, 260, 270,       Channel n       Colour Temperature       C W U	,						
200, 210, 220, 230, 240, 250, 260, 270, Channel n Colour Temperature C W U DPT7.001				e dimmina.		<u> </u>	
		•		-	Colour Temperature		DPT7.001
				(n=1, 2,, 64)	(2 bytes)	CWU	2 bytes

## HDL®

360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830 These objects are used for color temperatu 201, 202, 203, 211, 212, 213, 221, 222, 223, 231, 232, 233, 241, 242, 243, 251,	re function.			
252, 253, 261, 262, 263, 271, 272, 273, 281, 282, 283, 291, 292, 293, 301, 302, 303, 311, 312, 313, 321, 322, 323, 331, 332, 333, 341, 342, 343, 351, 352, 353, 361, 362, 363, 371, 372, 373, 381, 382, 383, 391, 392, 393, 401, 402, 403, 411, 412, 413, 421, 422, 423, 431, 432, 433, 441, 442, 443, 451, 452, 453, 461, 462, 463, 471, 472, 473, 481, 482, 483, 491, 492, 493, 501, 502, 503, 511, 512, 513, 521, 522, 523, 531, 532, 533, 541, 542, 543, 551, 552, 553, 561, 562, 563, 571, 572, 573, 581, 582, 583, 591, 592, 593, 601, 602, 603, 611, 612, 613, 621, 622, 623, 631, 632, 633, 641, 642, 643, 651, 652, 653, 661, 662, 663, 671, 672, 673, 681, 682, 683, 691, 692, 693, 701, 702, 703, 711, 712, 713, 721, 722, 723, 731, 732, 733, 741, 742, 743, 751, 752, 753, 761, 762, 763, 771, 772, 773, 781, 782, 783, 791, 792, 793, 801, 802, 803, 811, 812, 813, 821, 822, 823, 831, 832, 833	Channel n (n=1, 2,, 64)	Status (1 bit) Status (1 byte) Status (2 bytes)	CRT	DPT1.001 1 bit DPT5.001 1 byte DPT7.001 2 bytes
These objects are used for selecting status	s feedback type, i	ncluding 1-bit object fe	edback,	1-byte object
feedback and 2-byte object feedback.			r	
204, 205, 214, 215, 224, 225, 234, 235, 244, 245, 254, 255, 264, 265, 274, 275, 284, 285, 294, 295, 304, 305, 314, 315, 324, 325, 334, 335, 344, 345, 354, 355, 364, 365, 374, 375, 384, 385, 394, 395, 404, 405, 414, 415, 424, 425, 434, 435, 444, 445, 454, 455, 464, 465, 474, 475, 484, 485, 494, 495, 504, 505, 514, 515, 524, 525, 534, 535, 544, 545, 554, 555,	Channel n (n=1, 2,, 64)	Lamp fault Ballast fault	CRT	DPT1.005 1 bit

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## 10.7 Objects "Scene"

Objec	cts "Sce	ne"									
837	Scene	116	Call sce	cene(1byte) 1 b		c	-	W ·	-	scene con	t低
838	Scene	cene 1/2 '0'-Scen		ne 1 / '1'-Scene	1 bit	C	-	W ·	-	switch	低
839	Scene	ene 3/4 '0'-Scen		ne 3 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
840	Scene	5/6	'0'-Scer	ne 5 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
841	Scene	7/8	'0'-Scer	ne 7 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
842	Scene	9/10	'0'-Scer	ne 9 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
843	Scene	11/12	'0'-Scer	ne 11 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
844	Scene	13/14	'0'-Scer	ne 13 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
845	Scene	15/16	'0'-Scer	ne 15 / '1'-Scen	1 bit	C	-	W ·	-	switch	低
Ν	о.	Nam	ıe	Function			Fla	ag		Data	Туре
0,	77	Scene n (n=1, 2,, 16)		Call scene (1 byte)		CW				DPT18.001	
8,	37									1 byte	
This o	object is	s used for ca	lling 16 sce	enes.							
		_		Call scene (1 byte)							
838	-845	5 Scene m/ (m+1) (m=1, 2,, 15)		'0'-Scene m/ '1'-Scene (m+1)		C W				DPT1.001 1 bit	
000	010										
				(m=1, 2,, 15)							
These	e object	s are used for	or calling 2	scenes. Object "838" is taken a	is an exa	amp	ole,	sce	ne	1 will be o	called by
"0", w	hile sce	ene 2 will be	called bv "	1".							
.,											

## 10.8 Objects "Additional function"

846	Additi	tional function 1" as an e tional funtion 1 Emer. Ex		rnal telegram	1 bit	с-	W -	-	switch	低
846	Additi	onal funtion 1	Sequence	1	l bit (	: -	w -	-	start/stop	低
846	Additi	ional funtion 1	Staircase	light	1 bit (	oit C - W			switch 低	
847	Additi	ional funtion 1	Staircase	light alarm	1 bit (	C R	- T	-	alarm	低
Ν	lo.	Nam	e	Function		Fla	g		Data	Туре
846	, 848,									
850	, 852,									
854	, 856,	D, Addition function		Staircase light Sequence		CW			DPT1.001 1 bit	
	, 860,									
862, 864,				Emer. External telegram					DPT1.010 1 bit	
866, 868,										
	, 872,									
	, 876									
	-	ts are used for	or additiona	al functions, including staircase lig	ht, se	quen	ce a	ind	emerger	ncy ligh
funct										
	, 849,									
	, 853,									
855, 857, 859, 861, 863, 865,		, Addition function n , (n=1, 2,, 16)								
				Staircase light alarm		CRT				1.005
									1 bit	
867	, 869,									
	070	1								
871	, 873, 5, 877									

## 10.9 Objects "DALI Manage"

Objec	Objects "DALI Manage"											
890	890 DALI Manage Request string 14 bytes C - W Character 低											
891 DALI Manage Response string 14 bytes C T - Character 低												
N	lo.	Name	Flag	Data Type								
890, 891		DALI Manage		Request string		C 144	DPT16.000					
				Response string		CW	14 bytes					
These	These objects are used for communicating with auxiliary software.											